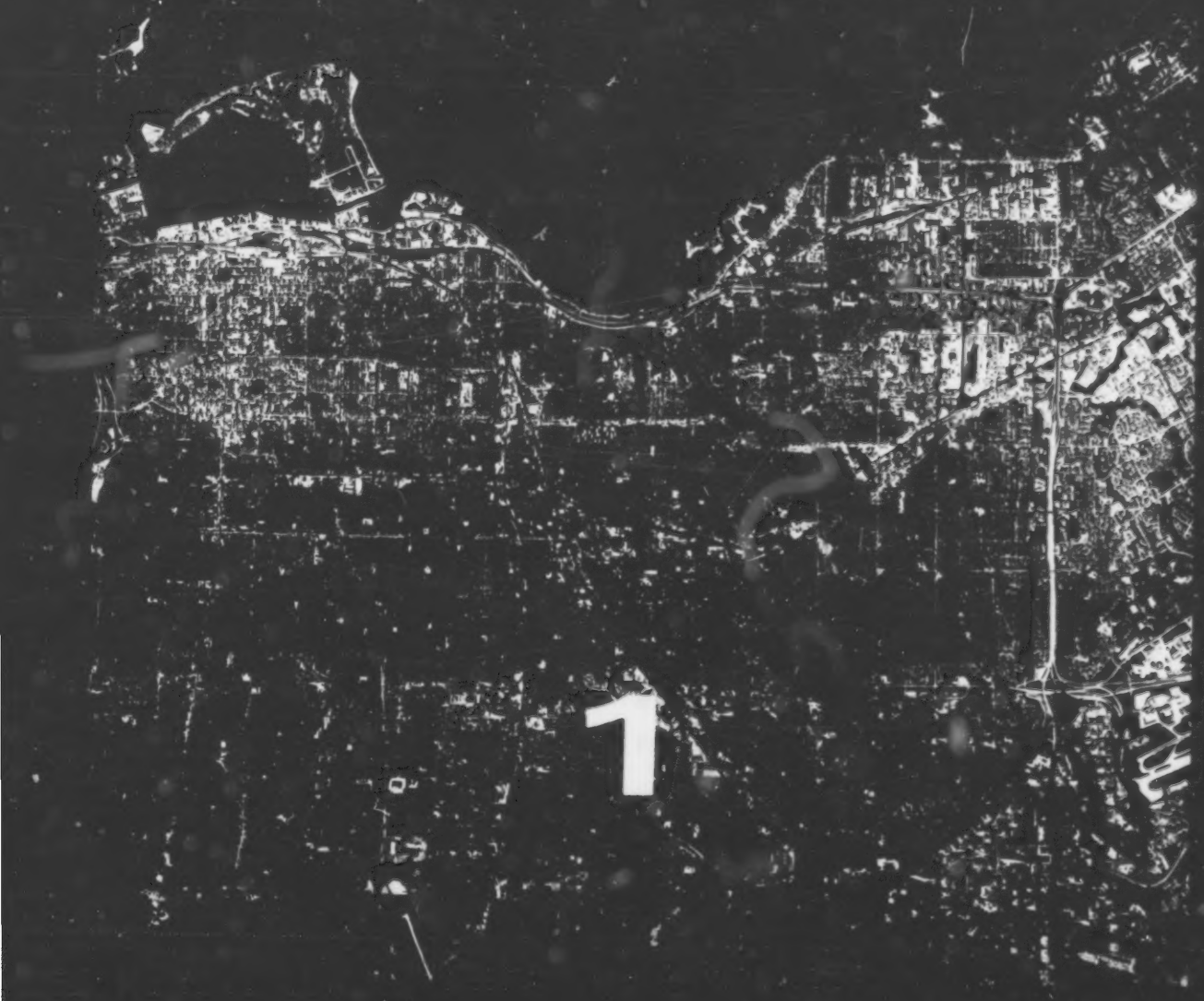
Royal Commission on the Future
of the Toronto Waterfront

Environment and Health



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Royal Commission on the Future of the Toronto Waterfront

CANADA

Commission royale sur l'avenir du secteur riverain de Toronto

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Dear Colleague:

I am pleased to provide a copy of the Report of the Work Group on Environment and Health, which was formally presented to me on Tuesday, April 4, 1989 at the offices of the Royal Commission.

It represents the opinion of the authors and not of this Commission. Nevertheless, I am pleased to note that the document provides a thorough overview of some important issues in this field. It should serve to stimulate and focus discussion on environment and health issues, which are among the most important matters facing this Commission and anyone who wants a better waterfront for Toronto.

I look forward to hearing from you.

Cher collègue,

J'ai le plaisir de vous faire parvenir copie du rapport du Groupe de travail sur l'environnement et la santé, qui m'a été présenté officiellement le mardi 4 avril 1989 au bureau de la Commission.

Les opinions qui y sont formulées sont celles des auteurs et non de la Commission. Ce document constitue néanmoins une étude approfondie de certaines questions qui se posent dans ce domaine. Il devrait alimenter et polariser la discussion des questions d'environnement et de santé qui sont parmi les plus importantes sur lesquelles doivent se pencher la Commission et toute personne soucieuse d'un meilleur secteur riverain pour Toronto.

En espérant recevoir bientôt de vos nouvelles, je vous prie d'agréer, cher collègue, mes cordiales salutations.

David Crombie

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Environment and Health

Issues on the
Toronto Waterfront

Frontispiece: Courtesy of the Toronto Harbour Commissioners

Royal Commission on the Future of the Toronto Waterfront.
Environment and Health Work Group

Environment and health: issues on the Toronto waterfront

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Table of Contents

The Members of the Committee 3

A Note to the Reader 5

Summary 7

Introduction 23

1. Water Quality: Fishable, Swimmable, Drinkable? 27
2. Lakefilling: "The Bay is Shrinking!" 45
3. Heritage Preservation: "What Time is This Place?" 65
4. Natural Areas and Wildlife: "Where the Wild Things Are" 81
5. Public Involvement: "What Can I Do?" 103
6. Jurisdictions: "Who's in Charge Here?" 115

Appendix 1 Glossary of Acronyms 133

Appendix 2 Government and Quasi-government Agencies and Departments Interviewed 134

Appendix 3 Non-Government Organizations That Made Submissions 135

Bibliography 136

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Suzanne Barrett

Suzanne Barrett is a consultant in environmental planning, formerly an assistant professor at the Faculty of Environmental Studies, York University. Prior to that, she worked with the San Francisco Bay Conservation and Development Commission. Ms. Barrett's consulting experience includes a plan for the Amazon National Park in Brazil (for the International Union for Nature and Natural Resources), a plan for nature conservation in the Australian Capital Territory, and a study of People and City Landscapes for the Conservation Council of Ontario.

Simon Llewellyn

Simon Llewellyn is currently Manager, Program Co-ordinator, and Chair of the Regional Screening and Co-ordinating Committee with responsibilities for Environment Canada's involvement in the Federal Environmental Assessment and Review Process. He was previously with the Water Resources Branch, Ontario Ministry of the Environment, where his principal involvement was with the proposed Pickering Airport.

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Erv McIntyre is an engineer who has worked for more than 25 years with the Ontario Water Resources Commission and the Ministry of the Environment. He is currently Executive Director of Approvals and Engineering for the Ministry.

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Roy Merrens is a professor at York University, where he teaches in the Department of Geography and in the Faculty of Environmental Studies. He is the author of a number of books and articles, and a former Guggenheim Fellow and a member of the Toronto Harbour Commissioners. He currently serves on the Board of Advisors of the Waterfront Center in Washington, D.C., and is also a corresponding editor for the Waterfront Center.

Beverly Morley

Beverly Morley is Director of Community Relations and Communications with the Royal Commission on the Future of the Toronto Waterfront. She has previously worked as a community counsellor, a conference co-ordinator with NATO, and a political and protocol advisor in Canada and the United Kingdom.

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George Peter joined the Environment and Health Work Group to replace Ken Whitwell. Mr. Peter, an urban planner, is currently a manager in the Plans Administration Branch of the Ministry of Municipal Affairs. He is on an exchange program from the Municipality of Metropolitan Toronto where he has held the position of Director for each of the Long Range Planning, Development Control, and Policy Development divisions of the Metropolitan Planning Department.

Ken Whitwell

Ken Whitwell has been Commissioner of Planning for the City of Scarborough for the past eight years; previously he served as a planner for the City of Toronto. He has also worked with the City of Halifax, the Ontario Housing Corporation, and IBM. Mr. Whitwell served with the Work Group until he became Assistant Deputy Minister for Community Planning at the Ministry of Municipal Affairs.

A Note to the Reader

The Environment and Health Work Group was one of five groups established by the Intergovernmental Waterfront Committee in September 1988 to explore various issues related to the mandate of the Royal Commission on the Future of the Toronto Waterfront. The other four areas are: Parks, Pleasures, and Public Amenities; Jobs, Opportunities, and Economic Growth; Access and Movement; and Housing and Neighbourhoods.

The task of each group was to: summarize current plans and initiatives in the relevant field; examine the issues that all levels of government must address if the Toronto waterfront is to achieve its highest potential; and identify new opportunities that could be pursued if there were greater co-ordination amongst all governments and public authorities.

To fulfil its mandate, the Environment and Health Work Group met with representatives of all four levels of government and of public authorities responsible for various aspects of the Toronto waterfront (see Appendix 2). We contacted many environmental, recreational, and residents' associations we felt might be interested in environment or health issues related to the waterfront, and we received written submissions from a number of them (see Appendix 3). We also gathered and reviewed a considerable body of literature (see Bibliography) which is now available in the Canadian Waterfront Resource Centre, in the offices of the Royal Commission on the Future of the Toronto Waterfront, 207 Queen's Quay West, Box 4111, Station "A", Toronto, Ontario, M5W 2V4.

We thank all those who assisted us by agreeing to be interviewed, who wrote submissions, supplied reports and plans, and provided photographs and maps. Because of the constraints of time, we were unable to meet with everyone, or to investigate every area of concern in detail, and our work reflects events up to 31 December 1988. However, we hope this Report provides a worthwhile guide to some key issues and that it points to constructive opportunities that would permit sustainable development in a healthy waterfront environment.

The cross-section of the waterfront along the foot of Cherry Street, shown on the inside front cover of this Report, is an example of certain vital issues considered by the Work Group: virtually all the land was created by lakefilling (see Section 2). The expanses of water include some of the most contaminated

areas (at the mouth of the Keating Channel, bottom left) as well as one of the least polluted beaches (Cherry Beach, at the foot of Cherry Street), and serve to draw attention to the problems of water quality (see Section 1).

In the distance, at the top of the photograph, is an oblique view of the hundreds of hectares of the Leslie Street Spit, an extraordinary urban wilderness (see Section 4). The historical context of the Port Industrial District is part of the waterfront heritage that must be preserved (see Section 3). Finally, the territory and waters covered by the photograph are crossed by invisible but highly significant boundaries separating jurisdictions (see Section 6).

Summary

This Report is an attempt to examine the existing policy framework as it affects environment and health in relation to Toronto's waterfront. Canada, Ontario, and the City of Toronto have all endorsed a concept of health that defines the term as "the extent to which an individual or group is able on the one hand to realize aspirations and satisfy needs; and on the other hand, to change or cope with the environment."

While no common definition of environment exists across various jurisdictions, the definition we have chosen, taken from the *Environmental Assessment Act* of Ontario, is widely accepted. This definition takes a broad view of the environment, encompassing air, land, and water; plant and animal life, including humans; social, economic, and cultural conditions; buildings and structures; and any materials, odours, sound, vibration or radiation resulting directly or indirectly from human activities.

In addition to these definitions, we have called attention to the Great Lakes Water Quality Agreement, and the Canada–Ontario Agreement (COA) designed to facilitate Canadian participation in this international treaty. The Great Lakes Water Quality Agreement provides for virtual elimination of the discharge of toxic wastes into the Great Lakes and for Remedial Action Plans, including public input, in areas of environmental concern, including Toronto's waterfront.

We refer to the United Nations-sponsored World Commission on Environment and Development chaired by Dr. Gro Brundtland, and the Commission's report, *Our Common Future*, which was reviewed and endorsed in 1987 in the Report of the National Task Force on Environment and Economy, submitted to the Canadian Council of Resource and Environment Ministers. The key concept of *Our Common Future* is environmentally sustainable economic development, that is: development that treats environmental resources according to their future, as well as their current, value, and the Report urges institutional reform to recognize the links between economic development and the environment. Translating these fundamental policy directions into specific recommendations will challenge the Royal Commission on the Future of the Toronto Waterfront. We would argue that each recommendation of the Commission must be tested against the principle of sustainable development.

One of the prerequisites for environmentally sustainable economic development is the use of an ecosystem approach to planning, development, and/or management. This approach takes into account all the components of the ecosystem — air, land, water, and living organisms, including humans — and the interactions between them. We have chosen to focus on six topics that illustrate many of the environmental and health issues of the Toronto waterfront ecosystem: water quality, lake-filling, heritage preservation, natural areas and wildlife, public involvement in decision-making, and jurisdictions. We recognize that there are many other issues that we could have examined (e.g., air quality or soil contamination) but were limited by the Work Group's time and resources.

The principle of sustainable development, the goal of virtual elimination of toxic substances, and the ecosystem approach are recurrent themes throughout our Report. We hope that the Royal Commission will include these themes as a foundation for its conclusions.

Water Quality

A major focus of many of our discussions with officials and of submissions from non-government organizations was water quality. Canada and the United States are bound by the revised Great Lakes Water Quality Agreement of 1978, as amended by protocol signed 18 November 1987,which binds both countries "to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem". In Canada, the GLWQA is implemented through a Canada-Ontario Accord Respecting Great Lakes Water Quality, which is administered by a Canada-Ontario Agreement (COA) Review Board and a number of subcommittees. The Water Quality Board of the International Joint Commission has designated 42 Great Lakes "Areas of Concern", of which the Metro Toronto waterfront is one.

Under COA, Canada and Ontario have agreed to prepare a Metro Toronto Remedial Action Plan (RAP), which is to embody the ecosystem approach in restoring and protecting beneficial uses. With the exception of contributions from atmospheric depositions and *in situ* contaminated sediments,

the sources of water quality problems in the Toronto waterfront are generally known and extensive research is currently under way to address the problem of contaminated sediments in the Great Lakes basin.

The major sources of contamination are sewage and surface run-off. Water quality impairment is due to bacteria, nutrients, heavy metals, and organic chemicals that come from sewage treatment plants or from combined sewer outflows and storm sewers. Chemical discharges into Lake Ontario have led to concern about the quality of Toronto's drinking water. Extensive surveillance and research into treatment methods is no substitute for virtual elimination of the discharge of toxic wastes into the lake.

Many years of toxic discharge have grossly contaminated sediments on Toronto's waterfront. Uptake of these sediments by aquatic life, though not well understood, is a probable source of some contaminants found in bottom-dwelling creatures and fish. The problem of contaminated sediments occurs throughout the Great Lakes. There is no consensus on what remedial action if any should be taken.

The Report describes a wide range of programs at all levels of government to deal with water quality problems, among them: the Metropolitan Toronto Waterfront Water Quality Improvement Program (WWQIP), a short-term remedial action program that has committed or spent $50 million on actions to restore beneficial uses along the waterfront; various maintenance programs being undertaken by municipalities; and the Municipal–Industrial Strategy for Abatement (MISA) to control municipal and industrial discharges to surface waters.

The present situation generates difficult issues. While there is widespread agreement that unacceptable water quality conditions exist at the Toronto waterfront today, there is no consensus on water uses and therefore no consensus on the nature and acceptable cost of remedial action. As a result decisions such as who decides, who pays or even how feasible is the restoration of desirable water uses, cannot be made.

Finally, in dealing with desired water use quality and goals in conjunction with land uses, a number of questions arise: do current mechanisms and working relationships allow all levels of government to deal effectively with issues and develop co-ordinated and comprehensive waterfront plans; are

decision-making and dispute-settling mechanisms adequate; do mechanisms at any level of government include adequate public consultation; and can remedial measures be implemented within a reasonable time?

There is a need to resolve overlapping and conflicting roles and jurisdictions; integrate various plans and approaches more fully; improve the public consultation process and, where possible, carry out joint consultations; and, in some cases, share responsibility, decision-making, and funding. Multi-jurisdictional, multi-agency goals would lead to orderly planning, development, and environmental protection and rehabilitation of the Toronto waterfront.

Lakefilling

Lakefilling on Toronto's waterfront has long been an important part of the city-building process: almost all the land south of Front Street is lakefill. Since the 1970s, much of the lakefilling along Metropolitan Toronto's waterfront has been undertaken to provide recreational facilities, especially marinas and sailing clubs. Below the Bluffs in Scarborough, the Metropolitan Toronto and Region Conservation Authority has also undertaken some lakefilling for armouring and erosion control purposes, although their long-term effectiveness and erosional and depositional consequences are questioned by some authorities.

The MTRCA is currently considering several additional projects including a major one to provide an Olympic rowing course in Humber Bay. Other projects include the Toronto Harbour Commissioners marina, under construction in the Outer Harbour; and Harbourfront, which advocates doing some lakefilling at specific locations along its waterfront. Proposals to hold Expo 2000, a World Fair, in Toronto have recently been announced, and show the site extending over 182 hectares (450 acres) of waterfront, centred on Exhibition Place and Ontario Place, with expansive lakefilling for hotels, marinas, and other uses.

Lakefilling is a fairly simple process, and relatively inexpensive. Traditionally, material has come from beneath water surfaces and from the land-side, usually in the form of unwanted urban debris. It has only recently begun to attract

public attention. The Ontario Ministry of the Environment is currently reviewing methods and policies necessary for disposing of fill materials and for classifying various grades of material. Lakefilling is subject to environmental assessment if it is part of either a municipal undertaking costing more than $3.5 million, or a Conservation Authority project of more than $1 million, but not because it is lakefilling per se. Current environmental assessment policies do not provide specific criteria for lakefilling.

Lakefilling activities modify the coastal processes which, in normal circumstances, disperse and transport wastes from other sources out of the near-shore. As a result, lakefill sites become in-place pollutant problem areas where the accumulation of contaminated sediments provides a contaminant pathway up through the food chain. Moreover, each lakefill project destroys habitat, alters natural wave and current depositional regimes, and reduces the surface and volume of water, thereby reducing the natural regenerative capacity of water in the harbour and in embayments.

Other issues include the fact that the MTRCA has responsibility for regulating lakefill quality, at the same time that it is the chief advocate of lakefilling. The THC's role in lakefilling appears to be anomalous: while opposing lakefilling in the Inner Harbour, it is currently well advanced in a major lakefilling project in the Outer Harbour. Without a coherent policy on lakefilling per se, it makes decisions on what it perceives as the public interest, as interpreted solely by the THC.

The need to adhere to both the concept of sustainable development and the more specific goals of the Great Lakes Water Quality Agreement may make it necessary to suspend lakefilling while a policy is formulated and implementation measures adopted to ensure that, in future, it meets these new, high standards. Among factors to be considered in formulating a lakefilling policy: rising development costs when material deposition in the lake is abandoned; and how to increase recreational uses of the waterfront without constantly expanding into the lake.

The same body or intergovernmental agency charged with producing the lakefilling policy should also be charged with developing an interim approach to ensure that the waterfront would not be further changed by lakefilling in ways that would foreclose the kinds of options being considered as permanent

policy. Both the new policy and the interim approach should be developed by the provincial and federal governments acting in concert.

Heritage Preservation

While the value of both heritage in general and Metropolitan Toronto's waterfront in particular have been officially acknowledged, there has never been an effective, coherent approach to preservation of Toronto's waterfront heritage. The City of Toronto's Official Plan, adopted by City Council in 1976, contains a general statement that the "Council will designate buildings and sites of historical or architectural merit and take all necessary steps to ensure their preservation", but the City can do little to preserve designated buildings when owners are determined to demolish them.

A 1987 amendment to the *City of Toronto Act* gives City Council some flexibility in dealing with owners who wish to redevelop sites containing designated buildings, but the process can be used by a developer to gain density increases or other benefits from the City, even though the developer may have no real intention of destroying the building(s) in question; and, ultimately, it is the developer who decides the fate of the threatened heritage building. Legislation to protect heritage buildings is a responsibility of provincial government; in Ontario, the key legislation (*Ontario Heritage Act, 1974*) has little effective power to preserve threatened sites, and even designated properties are lost from time to time. The Province has initiated an Ontario Heritage Policy Review to examine activities, legislation, and programs with a view to creating a policy framework within which government programs and legislation could be improved.

In assessing the built environment, consideration must be given to a variety of attributes of buildings, related to their historical associations and context, as well as to architectural and engineering qualities. Relevant history includes a building's associations with well-known events and persons, and with endeavours that have affected a substantial population or geographic area. Thus an historic waterfront shipbuilding site or iron foundry would qualify for consideration (although examples of both were demolished in Harbourfront).

The current situation gives evidence of two conflicting tendencies: while there is some official recognition of the value of heritage preservation and a degree of public support for it, the reality is that the waterfront heritage is not being preserved. The net effect of these conflicting tendencies is that the heritage of the City's central waterfront, in the segment between Yonge and Bathurst streets, has been virtually obliterated. The two striking exceptions are the Queen's Quay Terminal building and the Canada Malting complex of offices and grain silos (and the future of the latter is still uncertain).

The key issues in waterfront heritage preservation: there are industrial buildings worth preserving; the built environment includes the ordinary, rather than just the most prestigious architectural structures; both the *Planning Act* and the *Environmental Assessment Act* have the potential to require heritage preservation, but in practice they are not being effectively used for this purpose; the economic advantages of heritage preservation are underestimated while the debate on heritage preservation is too often couched in purely economic terms; and the historical context of buildings is as important as the buildings themselves.

The most important opportunity is to develop and implement a waterfront-wide heritage preservation policy to protect what remains. Developing an ideal policy will require consultation and shared expertise among authorities in the field of heritage preservation in general, and the field of waterfront re-use in particular, as well as the co-operation of representatives of all levels of government. Such a policy must be based on a waterfront-wide perspective rather than being the result of haphazard concern with a few specific, scattered sites or buildings. Successful implementation of a waterfront heritage preservation policy will depend on the effective use of both regulatory measures and incentives, as well as on co-operation amongst the four levels of government, the private sector, and voluntary organizations.

Natural Areas and Wildlife

For the purposes of this Report, the term natural areas encompasses all those open spaces where ecological processes and natural vegetation are dominant, including the remnants of the original natural environment of the Lake Ontario

shoreline, and more recent areas where ecological communities are developing through natural succession (as on the Leslie Street Spit). We consider wildlife to include all animals and plants, both aquatic and terrestrial.

The GLWQA requires that Remedial Action Plans and Lakewide Management Plans take an ecosystem approach to restoring and protecting beneficial uses, including healthy fish and wildlife habitat. It also calls for the identification, preservation, and rehabilitation of significant wetlands. In addition, the World Conservation Strategy, which has been endorsed by the Canadian government, is committed to maintaining essential ecological processes; preserving genetic diversity; and ensuring sustainable utilization of species and ecosystems.

The stresses that have impoverished most of the Toronto waterfront of natural habitat and wildlife began with the colonization of the Toronto area by Europeans. Urbanization of the watersheds has also resulted in major stresses: much of the land has been developed; the watercourses have been modified, channelized or piped underground; patterns of storm water drainage have been drastically altered; sediment loads of rivers have been increased, leading to deterioration of the wetland habitats where they are deposited; and a wide range of pollutants is discharged into the air and waters.

Studies of benthic (bottom-dwelling) invertebrates, caged clams, spottail shiners, sport fish, common tern chicks, and herring gull eggs show that aquatic wildlife in the Toronto waterfront ingest a variety of contaminants. While no studies have been conducted, it is probable that other organisms in the food web (e.g., fish-eating waterfowl) are also contaminated.

Despite these problems, there are still some natural habitats on the Toronto waterfront, although they are becoming increasingly scarce and fragmented: rivers, streams, wetlands, embayments, near-shore waters, beach strands, wet meadows, lagoon edges, dunes, and valleyland forests. The best warm water habitats in the near-shore zone are found in the river-mouths, the Toronto Islands, and the embayments created by lakefilling projects. Key fish habitat areas include the river-mouths and upstream reaches. The Humber and the Rouge Marshes provide important spawning and rearing areas for many species, and seasonal migrations of stocked salmon and trout occur in both rivers.

The federal *Fisheries Act* protects fish and their habitat from habitat destruction/degradation and the discharge of deleterious substances; the Fish Habitat Provisions of the Act are administered in Ontario by the Ontario Ministry of Natural Resources and the federal Department of Fisheries and Oceans. The federal Policy for the Management of Fish Habitat is designed to achieve a net gain of fish habitat by conserving, restoring, and developing habitats. More specific arrangements to implement this policy will probably be included in a proposed Canada–Ontario Memorandum of Intent on the Management of Fish Habitat.

The *Fisheries Act* includes general Pollution Prevention Provisions which could be applied to point-source (industrial or municipal) or non point-source (urban run-off) discharges to the Toronto waterfront. While there are currently no specific regulations or guidelines on this matter, Fisheries and Oceans Canada and Environment Canada are currently drafting a Compliance and Enforcement Policy, which may ultimately be implemented by the Province.

Several agencies have recognized the value of the most significant natural areas on the Toronto waterfront with a variety of designations and policies. These include the Environmentally Significant Areas (ESAs) of the MTRCA, the draft Wetland Policy Statement of the ministries of Municipal Affairs and Natural Resources, Areas of Natural and Scientific Interest (ANSIs) identified by the Ministry of Natural Resources, Environmental Resource Areas (ERAs) of the City of Toronto, and the Environmental Impact Zone (EIZ) of the City of Scarborough.

While, in theory, natural areas are protected by these designations and policies, in practice they are vulnerable to numerous impacts arising both within and outside the significant areas. Some of the designations (e.g., MTRCA's ESAs and MNR's ANSIs) carry no legislative protection. Significant natural areas are owned by a variety of public agencies and private landowners, and their management is further complicated by agreements between agencies. Competing land uses are a source of conflict in some areas, such as the Leslie Street Spit, and may become an issue with proposals to develop the Seaquarium in Humber Bay Park East. There is a general

lack of awareness of changes to wildlife habitats and populations; typically, we don't appreciate what we have until it has already been lost or degraded.

The remaining natural areas along Toronto's shoreline contribute to the diversity of open spaces and recreational opportunities on the waterfront. They are particularly valuable for such informal activities as birding, photography, walking, jogging, nature study, fishing, picnicking, and the like — basic recreational pleasures that require no expensive equipment or facilities. They are an especially rich environment for children, where they can see, touch, and hear nature in all its variety, and enjoy adventures stimulated by an unstructured and complex environment.

With the rapid urbanization of Metro Toronto and surrounding regions and the resultant continual losses and degradation of natural heritage, the remaining natural areas along the waterfront and in the valleys are becoming increasingly valuable. Growing public awareness of the environment contributes to a shift in interest towards more natural types of open space, and we can expect that in the future, there will be increasing demands to experience nature, both in everyday neighbourhood settings and in the special urban wilderness areas.

The key opportunity to ensure the protection of natural areas is to adopt an ecosystem approach to the conservation of natural habitats and wildlife on the Toronto waterfront. This should include evaluation of each area in relation to other natural areas in the region; consideration of all the environmental conditions of individual areas as well as external influences on them; and an emphasis on the protection of natural features and processes in all facets of planning and development.

Some other opportunities include the recognition and protection of the Leslie Street Spit as an urban wilderness, the naturalization of portions of existing and future open spaces, and the restoration of aquatic habitats. Finally, public education, awareness, and environmental rehabilitation programs can be promoted to increase appreciation, understanding, and enjoyment of natural areas and wildlife and to provide opportunities for people to get involved in active habitat improvement projects.

Public Involvement

The interest in the waterfront as a special resource for Metropolitan Toronto, combined with growing concern for environmental quality, have focussed specific attention on the waterfront environment. A number of non-government organizations have formed as a result of this concern for the Great Lakes in general, and the Toronto waterfront in particular. Using public involvement to gain citizen input into decision-making has become a generally accepted part of planning and environmental assessment processes, although the specific form and outcome of public involvement programs are still the subject of considerable debate.

In the context of the Toronto waterfront, public involvement in decision-making is applicable to the Remedial Action Plan; environmental assessments carried out under the *Ontario Environmental Assessment Act* and the federal Environmental Assessment and Review Process; plans for specific projects of the MTRCA; and municipal processes, such as revisions of official plans of Metro and the area municipalities, and rezoning.

Public involvement may include information, education, and participation in the decision-making process, which should contribute to improved environmental conservation and management, and to empowerment of individuals. Empowerment — the ability of people to use information and power to make choices — is widely recognized as an important factor in promoting good health.

Public involvement can provide decision-makers with more complete information about public values, goals, and perceptions of issues, which should lead to improved plans, policies, budgets, etc. Support is gained for political decisions, regulations, budgetary commitments, etc. when a constituency is well informed and has been involved directly in the decision-making process. Further, if people are aware of the nature of and reasons for regulations (e.g., sewer-use by-laws), they are more likely to comply with them, and to keep their eyes open for violations.

The Great Lakes Water Quality Agreement requires that the public be consulted in all aspects of remedial action planning, and Public Involvement Guidelines for RAPs have been developed under the Canada-Ontario Agreement Respecting Great Lakes Water Quality. In 1985, a group of citizens, impatient

with the lack of federal/provincial progress on a Remedial Action Plan for the Toronto waterfront, initiated their own program (known as WRAP) with City of Toronto funding. In June 1986, a federal-provincial Toronto RAP team, composed of representatives of Environment Canada, the Ontario Ministry of Environment and Natural Resources and the Metropolitan Toronto and Region Conservation Authority, was established. A Public Advisory Committee is currently being formed to provide advice to the RAP team.

The federal Environmental Assessment and Review Process (EARP) requires only limited public consultation. Public consultation *may* be used during the scoping process or subsequent planning stages, especially for controversial projects about which there is a high level of public concern. In the context of the Toronto waterfront, several major landowners — the Toronto Harbour Commissioners, Harbourfront Corporation, and CN Rail — are not subject at present to the EARP.

The *Ontario Environmental Assessment Act* (EAA) has stronger provisions for public involvement than the EARP, requiring the proponent to advise the public prior to submission of an EA about the nature of the proposed projects as well as where and how the public may participate; the EA document and reviews are subsequently made available to the public for 30 days to comment and/or to request a hearing. However, there is no legislated requirement for public involvement during the planning process.

A review of the EAA, known as EAPIP (Environmental Assessment Program Improvement Project), is currently being conducted by the Ministry of the Environment. The role and effectiveness of public involvement in environmental assessment is one of the major topics of this review. Examples of the application of the *Environmental Assessment Act* on the Toronto waterfront include Colonel Samuel Smith Park (1980), the Keating Channel (1983, with addendum of 1984), Tommy Thompson Park, and the Ashbridge's Bay Water Pollution Control Plant (WPCP) expansion.

The Metropolitan Toronto and Region Conservation Authority has recently involved the public in major plans for conservation areas and other special projects. However,

some concerns have been expressed about the way in which public consultation was conducted, and about the apparently limited public accountability of the Authority.

Under the *Ontario Planning Act* and *Municipal Act*, municipal councils are required generally to conduct business in meetings open to the public and structured so that councils, and/or their committees, can hear public deputations. The *Planning Act* provides a more detailed process for public participation in commenting on official plan development, official plan amendments, and zoning by-laws and amendments. When appeals are taken to the Ontario Municipal Board, members of the public may make deputations. However, the testimony of the general public does not always carry as much weight as that of expert witnesses. Citizen organizations may hire expert witnesses, but frequently cannot afford to do so.

The major public involvement issue is a lack of consistency in applying the process to similar projects being undertaken by different landowners; the federal EARP has limited requirements for public involvement, and excludes several key landowners — the Harbourfront Corporation (HC), the Toronto Harbour Commissioners, and CN Rail. Other issues include: a great divergence of opinion on the purpose and value of public consultation programs; a widespread public mistrust of government information, programs, and intentions; and a lack of adequate resources for citizens and special interest groups to effectively participate in all the issues of concern.

There is an opportunity to reinforce the Toronto Remedial Action Plan Process; the Royal Commission could encourage the RAP and perhaps work in concert with it so that public involvement efforts are co-ordinated, effective, and mutually reinforcing. The federal Environmental Assessment and Review Process should be strengthened through legislation, and public involvement in Ontario's Environment Assessment Program could be improved through EAPIP. Ways must be found to improve the public knowledge of environmental issues, programs, and possible life-style changes that a genuine environmental commitment will require.

Jurisdictions

No single agency of government or the private sector co-ordinates management or development of the Toronto waterfront, and no comprehensive plan serves as a common reference point for decision-makers. Instead, there are many agencies and levels of government with various jurisdictional responsibilities operating to reach different goals.

Environmental processes transcend jurisdictional boundaries, so that sound environmental management must be based on co-operation between neighbours, in the watersheds as well as along the waterfront itself. The principal bodies involved in the Toronto waterfront are the governments of Canada, Ontario, Metropolitan Toronto, and the cities of Toronto, Etobicoke, and Scarborough.

The planning responsibilities, policies, programs, approval procedures, budgetary processes, and reporting routes associated with all the jurisdictions on the Toronto waterfront form a complex maze. Understanding the interlaced jurisdictions and their responsibilities is essential to enable the integration of environmental considerations into their activities.

The key issue, from an environment and health perspective, is that there is currently no overall ecosystem approach to the planning, development, and management of the Toronto waterfront. Initiatives like the Metro Toronto RAP, the Toronto Area Watershed Management Study or the Rouge River Urban Drainage Study *do* bring together a number of agencies (and in some instances, the public) and employ an ecosystem approach within their particular mandates. However, there is no mechanism for taking an ecosystem approach, encompassing both land and water issues, for the entire waterfront and related watersheds, from the headwaters of the rivers to the waters of Lake Ontario.

The existence of so many jurisdictions and, in some cases, their limited public accountability, tend to hinder decision-making on such questions as who is responsible for what and, most important, who pays. With no single agency in charge, there is a clear need to develop/improve processes to achieve consensus on what needs to be done, priorities for action, division of responsibilities, and an equitable system of financial commitment.

Current processes for planning and environmental assessment do not provide adequate, comprehensive environmental planning. At the provincial level, reviews of the *Environmental Assessment Act* and the *Ontario Heritage Act* are under way, but it is not yet clear how the relationships between these Acts and the *Planning Act* will be addressed. The Ontario Round Table on the Environment and Economy presents an opportunity to develop specific policy statements to guide sustainable development initiatives. The Ministry of Municipal Affairs could also explore mechanisms to ensure that municipalities improve their capacity to undertake environmental planning.

At the federal level, implementation of proposals to legislate and strengthen the EARP will be a key step in improving the environmental assessment of federal undertakings. All federal agencies (including THC, CN Rail, and HC) should be required to submit to the EARP. Agreements should be developed with the provincial government to streamline overlapping and duplications of environmental assessment processes applicable to the same project.

Over the years, most decision-making on the Toronto waterfront has been based on economic imperatives, with an implicit assumption that the environment would take care of itself. As the scale of human activity has increased and became increasingly reliant on technology, the immediate effects and long-term implications for environmental quality have become apparent. The only way to address this problem is to adopt the principle of environmentally sustainable economic development, so that changes to the environment today will not reduce options for future generations. This will require all four levels of government and their agencies, the private sector, special interest groups, and the public to work together to develop consensus on a vision for the waterfront, with shared land and water use goals, and a strategy for achieving them. Once reached, a consensus on the future of the Toronto waterfront would provide a framework or benchmark against which each level of government and each agency should assess and develop its own and joint activities, programs, and plans.

The Royal Commission can provide an open forum to explore existing mechanisms, working relationships, and issues, and can assist in the development of processes to facilitate planning and decision-making among the various levels

of government, in order to achieve consensus. In addition, there are several other entities that have played, or have the potential to play, key co-ordinating roles as a foundation for this process, including the Remedial Action Plan Team, the Intergovernmental Waterfront Committee, the Metropolitan Toronto and Region Conservation Authority, and the Municipality of Metropolitan Toronto. Any mechanism for establishing consensus should itself be arrived at through discussions with all the participants, so that their involvement will be based on a full commitment to the process and to its subsequent implementation.

Introduction

In recent years, we have made major changes in the way we think about health and the environment; this Report reflects those changes. Canada has been in the forefront of new thinking about health: at all levels of government, there is an increasing awareness that health involves more than human biology and health care and that the individual citizen has an important role in making decisions about health. This new view is best summed up in the recent definition of health accepted by both the federal and provincial governments, as follows:

> Health is the extent to which an individual or group is able on the one hand to realize aspirations and satisfy needs and, on the other hand, to change or cope with the environment. Health is therefore a resource for everyday life, not the objective of living. It is a positive concept that emphasizes social and personal resources as well as physical capacity.

This definition implies that governments must heed the aspirations of individuals if they are to promote health. It also implies the need to provide individuals with information and to involve them in decision-making so that they can cope with or change the environment. (We address this issue in greater detail in sections 5 and 6 of this Report — public involvement and jurisdictions respectively.)

At the same time as the definition of health has become broader, understanding of the consequences of exposure to toxic chemicals has increased. A greater variety of health effects is becoming evident in long-term studies of the environment, and effects at lower and lower doses are considered significant. Several groups of people exposed to PCBs (Polychlorinated biphenyls) have now been studied for a number of years. Results in Japan, Taiwan, and Michigan in the U.S. all indicate that exposure to this group of chemicals can be harmful. Researchers are looking further afield for possible health effects on the immune system, on reproduction and development, as well as psychological effects that result from knowing one has been exposed to a harmful chemical, and other disruptions to living. This is a very substantial extension of earlier concerns about potential cancer-causing effects.

As research into the toxicity of lead becomes more sophisticated, for example, effects become evident at lower and lower levels of exposure. Finally, in any population there

are those who are particularly sensitive; the greater the numbers of people exposed, the more likely it is that particularly sensitive people will experience ill effects. The general trend of this research is to increase concern about chemical pollution of the environment.

Although this Report does not contain specific information on the impact of individual chemicals on Toronto's waterfront environment, the sections on water quality and lakefilling identify some effects of chemical pollution, as well as certain threats to water quality. Clearly, the prudent course is to minimize exposure by adherence to the principles described later in this introduction.

At the same time as our understanding of health has been changing, the definition of the environment has also been changing and broadening. The definition we adopted as a group comes from Ontario's *Environmental Assessment Act*:

> ... environment means:
> (i) air, land or water;
> (ii) plant and animal life, including man;
> (iii) the social, economic and cultural conditions that influence the life of man or a community;
> (iv) any building, structure, machine or other device or thing made by man;
> (v) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from the activities of man, or
> (vi) any part or combination of the foregoing and the interrelationships between any two or more of them ...

This broad definition — which, in its way, is complementary to the definition of health — emphasizes the social, as well as the physical, environment. We have chosen this more expansive definition and explored its wider implications, for both the physical environment (in the sections on water quality, lakefilling, and natural areas and wildlife) and the social and cultural environment (in the section on heritage preservation).

In the context of these definitions, Canada has endorsed two major international documents: the bilateral Canada–U.S. Great Lakes Water Quality Agreement as amended in 1987 and *Our Common Future*, the report of the World Commission on Environment and Development, which was chaired by Dr. Gro Harlem Brundtland.

Under the Great Lakes Water Quality Agreement, the discharge of any or all persistent toxic substances is to be virtually eliminated. It sets out specific levels and interim objectives for certain substances and emphasizes the ecosystem approach. We define an ecosystem approach as one that takes into account all the components of the ecosystem — air, land, water, and living organisms, including humans — and the interactions between them. It should consider the consequences of human actions and inactions at all levels, from individual behaviour to internationai protocols. The Agreement provides for remedial action plans that take a systematic and comprehensive ecosystem approach to the restoration and protection of beneficial use, and for public consultation in shaping such plans.

Our Common Future repeatedly stresses the interrelationship of economics, development, and ecology, the concept that concern for the environment is not a peripheral issue or a constraint on development, but must be linked to it; in the Brundtland Commission's words, "economics and ecology bind us in ever tightening networks". The Commission introduces the concept of sustainable development, recognizing that "where economic growth has led to improvements in living standards, it has sometimes been achieved in ways that are globally damaging in longer term". By contrast, "sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future" and it warns that "at a minimum, sustainable development must not endanger the natural systems that support life on earth: the atmosphere, the waters, the soils and the living beings".

The Government of Canada is on record as supporting sustainable development. Not only is this concept a guiding principle for Environment Canada, it is integral to the evaluation process in the financing of international projects. The National Task Force on Environment and Economy recommended a full partnership of governments, industry, non-governmental organizations, and the general public to guide us through an integrated approach to environment and economy. The complexity of this task becomes evident in our chapter on jurisdictions.

The Brundtland report bears further quotation: "... the integrated and interdependent nature of the new challenges and issues", it says, "contrast sharply with the nature of the institutions that exist today. These institutions tend to be independent, fragmented and working to relatively narrow mandates with closed decision processes. Those responsible for managing natural resources and protecting the environment are institutionally separated from those responsible for managing the economy. The real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must". The Toronto waterfront is a classic example of this separation of institutions and the threatened environment.

In this Report, we examine several key issues related to the questions most commonly asked about Toronto's waterfront: "Can you drink the water?"; "Is it okay to swim here?"; "Why don't I recognize this place anymore?"; and perhaps most cogently, "Who is in charge here?"

We examine these issues, keeping in mind the widely accepted definitions we have proposed and the commitments Canada and Ontario have made to improving the environment. The Royal Commission on the Future of the Toronto Waterfront offers the opportunity to reiterate Canada's commitment to virtual elimination of toxics, to explore the policy of sustainable development for Toronto's waterfront, and to develop a management system that recognizes the interlocking nature of environmental and economic systems.

1. Water Quality: Fishable, Swimmable, Drinkable?

Background and Current Situation

Framework

The revised Great Lakes Water Quality Agreement (GLWQA) of 1978, as amended by protocol signed 18 November 1987, reaffirms the determination of Canada and the United States "to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem". Under the Agreement, it is the policy of the Parties that:

a) the discharge of toxic substances in toxic amounts be prohibited and the discharge of any or all persistent toxic substances be virtually eliminated;
b) financial assistance to construct publicly owned waste treatment works be provided by a combination of local, state, provincial, and federal participation;
c) co-ordinated planning processes and best management procedures be developed and implemented by the respective jurisdictions to ensure adequate control of all sources of pollutants.

The Parties also agreed to implement programs that fulfil the purpose of the Agreement and to meet its general and specific objectives. Many of these programs are pertinent to the Toronto waterfront: pollution from municipal sources, industrial sources, shipping activities, dredging activities, and contaminated sediments; persistent toxic substances; airborne toxic substances; surveillance and monitoring; and remedial action plans. In Canada, the GLWQA is implemented through a Canada-Ontario Accord Respecting Great Lakes Water Quality, which is administered by a Canada-Ontario Agreement (COA) Review Board and a number of subcommittees.

The Water Quality Board of the International Joint Commission has designated 42 Great Lakes "Areas of Concern", where failure to meet the general or specific objectives of the GLWQA has caused or is likely to cause impairment of beneficial uses or the ability to support aquatic life (see Table 1 for the IJC definition of impaired beneficial uses). The Metro Toronto waterfront is one of these designated Areas of Concern.

Table 1

"Impairment of beneficial use(s)" is defined as a change in the chemical, physical or biological integrity of the Great Lakes System sufficient to cause any of the following:

i. restrictions on fish and wildlife consumption;
ii. tainting of fish and wildlife flavour;
iii. degradation of fish and wildlife populations;
iv. fish tumours or other deformities;
v. bird or animal deformities or reproduction problems;
vi. degradation of benthos;
vii. restrictions on dredging activities;
viii. eutrophication or undesirable algae;
ix. restrictions on drinking water consumption, or taste and odour problems;
x. beach closings;
xi. degradation of aesthetics;
xii. added costs to agriculture or industry;
xiii. degradation of phytoplankton and zooplankton populations; and
xiv. loss of fish and wildlife habitat.

Extracted from: Annex 2 Remedial Action Plans and Lakewide Management Plans, Great Lakes Water Quality Agreement of 1978 as amended by Protocol signed 18 November 1987.

Under COA, Canada and Ontario have agreed to prepare a Metro Toronto Remedial Action Plan (RAP), which is to embody the ecosystem approach in restoring and protecting beneficial uses. The RAP is to include: a description of existing environmental problems; impaired beneficial uses; desired uses; sources of the problem; remedial measures being implemented; recommended remedial measures with a schedule of implementation; identification of implementing agencies; a process evaluating implementation of remedial measures; and a monitoring and surveillance program to confirm the restoration of uses. Under the GLWQA and COA, the Canadian and Ontario governments are also committed to public consultations in developing and implementing the RAP.

The Metro Toronto RAP Team has recently prepared a technical report, *Environmental Conditions and Problem Definition*, which summarizes the status of the Toronto waterfront, impaired uses, sources of contamination, and remedial measures now under way or being planned. In October 1988, the RAP Team held a two-day public workshop to discuss goals for the use of the waterfront; the goals established by the City of Toronto's Waterfront Remedial Action Plan (WRAP) Committee were the basis for discussions.

The Metro Toronto Remedial Action Plan covers the Lake Ontario waterfront of Metro, as well as all the rivers and creeks and their watersheds between Etobicoke Creek and the Rouge River.

Map courtesy the Metro Toronto Remedial Action Plan Team

Sources

With the exception of contributions from atmospheric depositions and *in situ* contaminated sediments, the sources of water quality problems in the Toronto waterfront are generally known. A recently installed air monitoring station on the Toronto Islands will provide an indication of atmospheric loadings to the Toronto waterfront. Extensive research is currently under way to address the problem of contaminated sediments in the Great Lakes basin.

Water quality impairment is due to bacteria, nutrients, heavy metals, and organic chemicals that generally come from sewage treatment plant bypassing, as well as from combined sewer overflows and storm sewers. The storm sewers contain contaminants from surface drainage; sanitary wastes from illegal cross-connections; and individual household, commercial, and/or industrial releases of chemicals to the storm sewer system. These sources discharge directly to the Toronto waterfront or indirectly via the six major watercourses (Etobicoke Creek, Mimico Creek, Humber River, Don River, Highland Creek, Rouge River) discharging to the waterfront.

Persistent and repeated high levels of fecal coliform bacteria, during both dry and wet weather, have led to frequent warnings against swimming ("placarding") on all Metro Toronto beaches (Etobicoke, Scarborough, Toronto Islands, and the City of Toronto's eastern and western beaches). There is also concern that this bacterial contamination may be a health risk for other body-water contact activities such as windsurfing and boating. In the Don and Humber rivers, bacterial pollution originates from both urban and rural sources. The contribution from geese and ring-billed herring gulls to the high bacteria levels are not considered to be significant.

High nutrient levels can lead to increased algal and weed growth. Although phosphorus (P) concentrations have decreased significantly over the last 20 years, P levels often exceed the Ontario guidelines. The lack of suitable substrate and wave action have prevented algal and weed growth from occurring along much of the shoreline and it is not a significant problem. The City of Etobicoke has a program to remove algal growth, which has been a problem along the western shoreline; however, the local residents' associations continue to be concerned about this growth.

Placarding the beaches along the Toronto Waterfront has become a visible symbol of the pollution of the lake.

Photo courtesy of *The Toronto Star.*

Bacterial contamination of the water poses a health hazard, not only to swimmers but also to boaters and windsurfers.

Photo courtesy of Suzanne Barrett.

Concern has been expressed about the safety of Toronto's drinking water because of trace amounts of toxic substances found in Lake Ontario and in the raw drinking water. Raw and treated water from the three major Metro Toronto water treatment plants is tested for 154 parameters under the provincial Ministry of the Environment's Drinking Water Surveillance Plan (DWSP). There have been rare exceedances by one or two substances in the treated drinking water of the Canadian drinking water maximum allowable concentration guidelines.

Questions have been raised about the adequacy of the guidelines themselves: the criteria used to establish allowable levels; the fact that the guidelines do not cover all the chemicals found in drinking water; and the assessment of health hazards. There is insufficient information available on the potential health effects of many chemicals. A federal-provincial Subcommittee on Drinking Water (Health and Welfare Canada) continuously reviews the drinking water guidelines.

Trihalomethanes (THM) are formed when the chlorine used to disinfect the raw water as it enters the sewage plant combines with trace levels of organics found in the raw water. Although the health risk of the THM levels needs further research, alternate methods of water treatment, including ozonation and activated carbon filtration, are currently being assessed.

Sediments are the "sink" for contaminants discharged to the waterfront. The gross contamination of sediments in the Toronto waterfront is due largely to historic discharges. The sediments most highly contaminated (by PCBs, organics, nutrients, and metals) are in Humber Bay and the Inner Harbour; the sediments along the eastern waterfront are the least contaminated. Any dredging in the Toronto Harbour area or in Humber Bay will probably require confined disposal to minimize the release of contaminants into the water. Although contaminated sediments are the probable source of some contaminants found in fish, the release of contaminants to the water column is not fully explained or understood.

The main concern about contaminated sediments is the potential for uptake of the contaminants by biota: they appear to be a significant source of PCBs and some metals to bottom-dwelling organisms. This is a high priority area for the IJC and Great Lakes research community because plans for dealing with contaminated sediments have to be established in almost

all 42 "Areas of Concern". Through the COA, guidelines are being prepared, research is being undertaken, and remedial measures and options are being investigated.

The loss of material from lakefilling activities has raised concerns because up to 50 per cent of the lakefilled material tested before 1988 has had one or more parameters exceeding the lakefilling (open water disposal) guidelines. Water quality studies of the Leslie Street Spit have shown occasional exceedances of the provincial Water Quality Drinking Water Objectives for trace metals and DDT near the lakefilling operations; these exceedances were generally smaller than those measured near the Don River and the main sewage treatment plant outfalls.

In comparison to loadings from sewage treatment plants, lakefilling is not a major source of contaminants. Sediment lost from the active lakefilling face accumulates over the sand bed near the Spit and any contaminants in the fine silt may potentially affect bottom-dwelling aquatic life during the summer (prior to being scoured away during winter storms). Embayments created by lakefill projects have also trapped fine sediments from other sources which have contaminant levels that exceed the open water disposal guidelines. Some lakefills have modified coastal processes and water circulation, thereby affecting dispersal of effluents and river discharges from the near-shore area and compounding near-shore water quality problems.

The Ontario Consumption of Sports Fish guide recommends fish consumption restrictions on large sizes of some fish species, based on mercury, mirex, and PCB levels; however, restrictions on fish consumption have been decreasing. Other contaminants (pesticides, dioxins, heavy metals) are not now being found at levels exceeding health guidelines. The mercury levels are influenced by natural background sources. The Niagara River is the source of mirex and, therefore, is unaffected by Toronto waterfront remedial measures. PCBs are found in sediments and biota, and only rarely in water samples. The Humber River is the most significant source of PCBs, the specific origins of which are unknown.

Programs

There are a number of programs currently under way that address the sources of the water quality problems — as we have noted, principally sewage treatment plants, combined sewer overflows, and storm sewers. These studies are being undertaken by different federal, provincial, regional, and municipal agencies.

The Toronto Area Watershed Management Strategy (TAWMS) Steering Committee is made up of representatives from the Ontario ministries of the Environment, Natural Resources, and Agriculture and Food; the Metropolitan Toronto and Region Conservation Authority; Environment Canada; the municipalities of Peel, York, and Metro Toronto, and cities in Metro. The Steering Committee has produced the Humber River Water Quality Management Plan, which identified measures to reduce contaminant loadings to the river. The plan for the Don River is being prepared, and Mimico Creek will be next. The recommendations and approaches in these plans will be applicable to other watersheds. However, they may not address all sources of water quality impairment of urban run-off.

The Metropolitan Toronto Waterfront Water Quality Improvement Program (WWQIP), an offshoot of TAWMS, is a short-term remedial action program that, by last year, had committed or spent $50 million on actions to restore beneficial uses along the waterfront. These include:

- construction of the Humber River diversion wall to prevent the river flow from immediately going behind the western beaches breakwater;
- accelerated sewer separation projects in East York, Toronto, and York;
- study of pollution abatement alternatives for the eastern beaches leading to a City of Toronto proposal to construct one detention basin at Woodbine Beach and another at Scarborough Beach;
- City of Toronto plans to construct and operate a staged diffuser (a pipeline with numerous discharge points) east of the breakwater to control water circulation, in an attempt to eliminate the need to placard the beaches at Centre Island;

- corrective action to eliminate identified sources of dry weather contamination such as illegal connections to storm sewers;
- study by Metro and the City of Toronto, first of the Metro Toronto sanitary intercepting sewers west of the Main Sewage Treatment Plant, including opportunities to contain and treat combined sewer overflows during storm conditions; and, second, of control strategies for improving and protecting the western beaches and Lake Ontario, from Ashbridge's Bay to the Humber River;
- studies of the Humber Treatment Plant, the Main Sewage Treatment Plant and Don trunk sewer to determine the impact of accepting combined sewer overflow.

The objectives of the Ministry of the Environment's (MOE's) Infrastructure Rehabilitation Program are to evaluate the need of municipalities to rehabilitate sanitary sewers and watermains and to recommend alternative remedial measures and an implementation program. North York, Scarborough, Etobicoke, and York are undertaking needs studies of their respective sanitary sewer systems.

Miscellaneous maintenance programs are being undertaken by municipalities; they include sewer inspection, maintenance, repair, and cleaning; catch basin cleaning and maintenance; and street cleaning.

The aim of the Province of Ontario's Municipal-Industrial Strategy for Abatement (MISA) is to control municipal and industrial discharges to surface waters by requiring dischargers to meet best available pollution abatement technology (economically achievable) standards. The ultimate goal is the virtual elimination of persistent toxic substances. Industries discharging to municipal sewers will fall under the Sewer Use Control Program. Although municipalities are expressing concern about this Program, because the details of its operation are still unclear, Metro Toronto will likely implement and enforce it.

The Rouge River Urban Drainage Plan Study was undertaken by the MTRCA with the support of all the municipalities in the Rouge River Watershed, and the provincial Ministry of the Environment and the Ministry of Natural Resources. The study is to:

- evaluate existing watershed management practices relating to urban drainage, including storm water quality/ quantity control, erosion and sediment control, and environmental and fisheries resources;
- develop and evaluate new watershed management practices where warranted;
- address implementation considerations and cost implications of new management practices;
- address legal aspects of existing and new management practices;
- encourage public participation throughout the study.

Urban Drainage Plans are to be developed for each of the nine watersheds within the MTRCA's jurisdiction.

Studies and research on contaminated sediments are being undertaken by the COA Polluted Sediments Committee to address their impact on water quality and biota and to develop guidelines for managing contaminated sediments . The Ministry of the Environment is developing sediment quality guidelines, which will include concentrations of substances necessary to protect beneficial uses and which will supplement the open water disposal guidelines for dredged material, which are also undergoing revision.

The Metropolitan Toronto and Region Conservation Authority is implementing an improved Lakefill Quality Control Program to control the quality of fill material used in lakefilling. The MOE, with input from Environment Canada (DOE), is preparing a lakefill policy that will develop administrative procedures for regulating lakefilling, as well as protocols and guidelines to ensure that lakefilling does not significantly impair water quality and uses.

Issues

All the complexities of the water quality problems in the Toronto waterfront are not fully understood scientifically, environmentally, and from an ecosystem perspective. All the solutions, remedial measures, and financial commitments necessary to restore and maintain water quality and desired

water uses are not yet fully known or available. Nevertheless, the water quality problems and their sources are generally known and understood.

Furthermore, there are numerous plans, programs, investigations, and research studies currently under way — all of which, in time, should lead to markedly improved water quality on the Toronto waterfront and, depending on the effectiveness of implemented remedial measures, a restoration of impaired water uses. This, however, may not necessarily mean that all desired water uses can be maintained or restored in the future in all areas of the Toronto waterfront.

There is widespread agreement that water quality conditions need to be improved with the general goals of having water that is swimmable, drinkable, and fishable. Raw sewage contaminating beaches, fish consumption restrictions, lack of access for different uses in parts of the waterfront, as examples, are clearly issues today. Various levels of government, the stakeholders, and the public must determine, in a co-ordinated and comprehensive fashion, what water quality and specific water uses are wanted or needed in specific areas of the Metro Toronto waterfront.

Inherent in those decisions are a number of tough general issues:

1. the decision-making processes: who decides and how will decisions be made?
2. the time frame: when can and will remedial measures be implemented?
3. finances: who pays for remedial measures, particularly if the decision is made to accelerate their implementation?
4. feasibility: can certain desired water uses ever be achieved?

The Toronto RAP is intended to address such issues and questions. The question remains whether the RAP is even the right mechanism to do this. In determining water uses (which depend on water quality), there are a number of specific issues to be addressed.

First, given that the watersheds draining into the Toronto waterfront are or will be almost fully urbanized, and given the known quality of urban run-off, can sources of fecal coliform bacteria ever be dealt with to a degree that will allow continuously open beaches, where they exist now or where they may be proposed? Some do not believe that periodic placarding of beaches and restrictions on swimming are problems in an urban area and question whether the expenditures needed to provide continuously open beaches are worth the costs. Programs to provide complete separation of combined sewers and detention and treatment of storm waters are costly, and still may not be sufficient. However, different techniques for disinfection of storm water are being researched, and various concepts for direct treatment and protection of bathing areas are being considered.

Second, the problem of contaminated sediments is not limited to the Toronto waterfront, but occurs throughout the Great Lakes. Although there is no consensus yet on what remedial action, if any, should be taken on contaminated sediments, one may emerge as the result of extensive research currently under way. Options could include removal, *in situ* treatment, or no intervention (permitting natural physical/chemical/biological processes to prevail). Some remedial measures may be very expensive and the question of who pays will have to be considered when there is no clearly identifiable source or polluter.

Third, an improved lakefill quality control program is being implemented by the MTRCA and a lakefill policy is being developed by the MOE. Until these prove effective, there will be continued concerns about whether excavated material is sufficently monitored and controlled to prevent material that exceeds guidelines being used in lakefills. Also at issue will be whether future lakefilling proposals along the waterfront will be adequately planned, reviewed, and approved in order to minimize detrimental effects (e.g., restrictions on water circulation; disruption of coastal processes; embayments being sinks for contaminated sediments) and to enhance desired water uses (e.g., recreation; access to waterfront; creation of aquatic habitat).

Fourth, there is the question of how various official plans, action plans, development plans, and waterfront plans from various — and sometimes competing and conflicting — jurisdictions and agencies can be co-ordinated, using a mutually agreed-to approach.

Water uses and land uses are interrelated, and in such cases as swimming beaches or marinas, are essentially the same. The determination of water uses, and resultant water-quality requirements, along the Toronto waterfront cannot be done in isolation from existing developments and/or new/changed land use plans.

The Toronto RAP is developing a remedial action plan to maintain and restore desirable goals and objectives for water uses, based on the input of stakeholders and the public. It will consider land use and land-based activities only inasmuch as these may affect water quality and water use goals. The completed RAP is considered to be a planning document, and it is hoped that its goals, principles, and objectives will be incorporated into various official plans, approval processes, and development proposals. It is also considered to be a background report for projects subject to provincial and federal environmental assessment processes.

Beginning with the Rouge River, the MTRCA is developing urban drainage plans and has prepared a Lake Ontario waterfront strategy. Metro Toronto and the cities in Metro have official plans; the City of Toronto has a proposed Central Waterfront Plan (amendment 463 to the City of Toronto Official Plan). The Toronto Harbour Commissioners has released a Port Industrial Area Concept Plan. Harbourfront, which is subject to the conditions in the Master Agreement with the City of Toronto, is seeking to proceed with a revised development plan. All of these plans have a direct or indirect bearing on water quality, water uses, and land uses.

Representatives of the four levels of government (MOE, MNR, DOE, MTRCA, and various regional and municipal departments) are being or have been involved in TAWMS, MISA, the development of the Toronto RAP, and the MTRCA drainage plans and waterfront strategy. To some extent, these plans and programs may provide these agencies with an opportunity and forum to understand and exchange

information on their respective programs and plans and, in some cases, to seek consensus and agreement, and to resolve different or conflicting goals and objectives.

Specific private, municipal, and provincial development proposals fall under the *Ontario Environmental Assessment Act* or Ontario Municipal Board (OMB) review and approval processes. Although it is not clear yet to what extent the proposed reform of the federal Environmental Assessment and Review Process (EARP) will apply to new Harbourfront and THC development proposals, in the future such proposals may fall under the strengthened EARP.

There are a number of issues that must be considered in light of the programs currently under way or planned to address the sources of water quality problems: the need to determine desired water use goals and water quality in conjunction with land uses, the range of plans currently in place and/or being developed, and the specific outstanding issues identified. Among the questions:

- Do the mechanisms and working relationships now in place allow all levels of government to deal effectively with issues and to develop a co-ordinated, comprehensive plan for waterfront?
- Are there adequate decision-making and dispute-settling mechanisms to deal with conflicting or differing interests, or in cases where jurisdictions overlap?
- Do existing federal, provincial, regional, metropolitan and area municipal mechanisms and procedures provide for adequate public consultation?
- Does the Toronto RAP involve all levels of government and other major players in the way they think they should be involved?
- With so many other initiatives under way, will the Toronto RAP process/framework/approach lead to commitments and implementation of remedial measures within a reasonable time?

Opportunities

Water quality requirements are based on desired water uses and, in turn, are the basis for deciding which remedial actions are necessary to address pollution sources and water quality problems in order to maintain and restore these water uses. The Metro Toronto Remedial Action Plan and its public consultation process offer the opportunity to develop a consensus on goals for water uses and water quality for specific areas of the Toronto waterfront. However, if a comprehensive, co-ordinated overall plan for the waterfront is desired, agreement is to be readily reached on goals and individual plans, and disagreement/conflict between agencies is to be avoided or minimized, water use goals and land use plans cannot be considered in isolation from each other.

The Metro Toronto RAP is limited because it deals only indirectly and incompletely with land use planning by considering only land use and land-based activities as they may affect goals for both water quality and water use. Other planning approaches, like the official plans of Metropolitan Toronto and the area municipalities in Metropolitan Toronto, deal directly with land use planning but less directly with water use goals and water quality requirements. In fact, there does not appear to be any one approach that deals fully with both water and land use planning.

In order to achieve better co-ordinated planning of the waterfront overall, these various planning approaches, each of which is legitimate in its own right and is designed to achieve a specific purpose, cannot proceed in isolation but must be interrelated and properly sequenced.

There is an opportunity to use and build on one or more of the current planning approaches to set goals for water use and quality, as well as for land use for the entire Metro Toronto waterfront: the Metro Toronto RAP; the MTRCA urban drainage plans and Lake Ontario waterfront strategy; the Metropolitan Plan Review; the ongoing review of area municipal official plans. The challenge and opportunity will be to develop these goals with the support of the various jurisdictions, agencies, and the public, thereby making them more readily implementable.

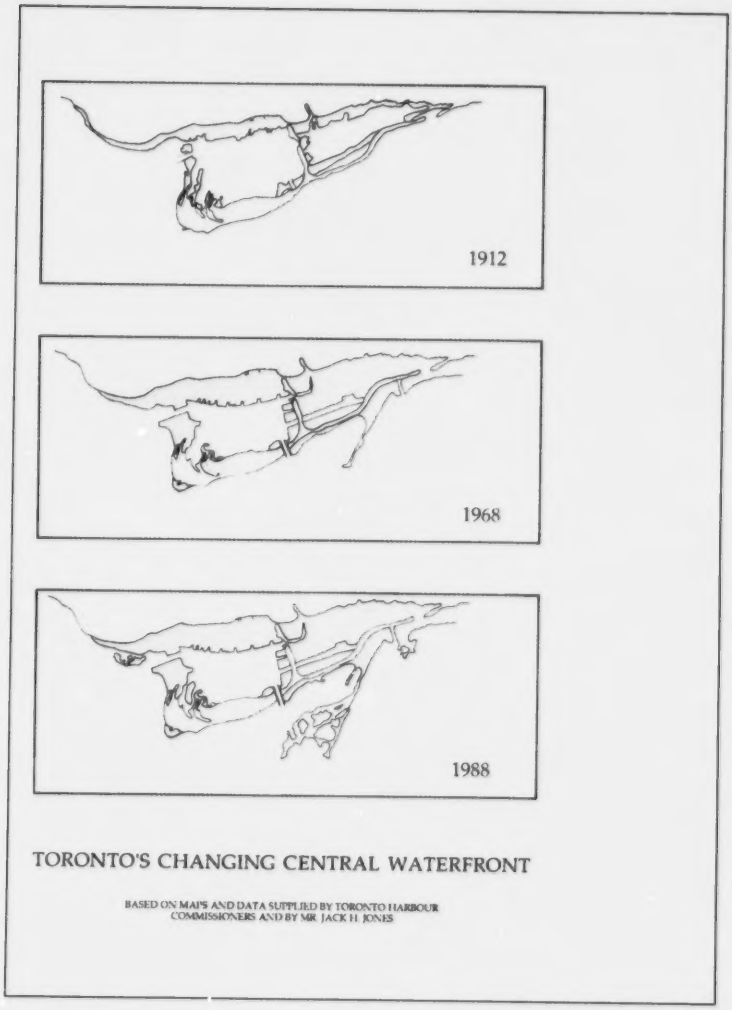
This would mean reaching a consensus among the various agencies on a common vision for the waterfront; resolving any overlapping and conflicting roles and jurisdictions; integrating various plans and approaches more fully; improving public consultation activities and, where possible, carrying out joint consultations; and, in some cases, sharing responsibilities, decision-making, and funding.

Agreed-to multi-jurisdictional, multi-agency goals would lead to orderly planning, development, and environmental protection and rehabilitation of the Toronto waterfront. These goals could consistently be applied to, or used as input to, official plans, specific development programs and proposals, environmental assessments and their reviews, and remedial measures for the RAP, and as the basis for funding commitments for these remedial measures.

This would provide a real example of environmentally sound and sustainable economic growth and development, in line with the report of the National Task Force on Environment and Economy.

The Royal Commission can be an open forum to explore and discuss the existing mechanisms, working relationships, and issues as a means of expediting the consensus building process necessary to reach common water and land use goals, objectives and opportunities. The Commission can make recommendations on strategies and ways of simplifying planning and decision-making among the various levels of government. The Royal Commission can also explore with the appropriate levels of government how it can complement their public consultations as they develop their respective plans.

2. Lakefilling: "The Bay Is Shrinking!"


1912
1968
1988
TORONTO'S CHANGING CENTRAL WATERFRONT
BASED ON MAPS AND DATA SUPPLIED BY TORONTO HARBOUR COMMISSIONERS AND BY MR. JACK H. JONES

Map of the changing Central Waterfront

2. Lakefilling: "The Bay Is Shrinking!"

Let the water below the sky be gathered into one area, that the dry land may appear. And it was so.
Genesis 1,9

Background and Current Situation

Lakefilling on Toronto's waterfront has long been an important part of the city-building process. Since the second half of the 19th century, lakefilling has been especially extensive in the City of Toronto's Central Waterfront: almost all the land south of Front Street is lakefill. Since its creation in 1911, the Toronto Harbour Commissioners has filled in more than 1,011 hectares (2,500 acres) along the waterfront. Historically, lakefilling has been more important in Toronto than in Etobicoke and in Scarborough, but it has become important in the latter two in recent years, and is a component in a number of their future plans.

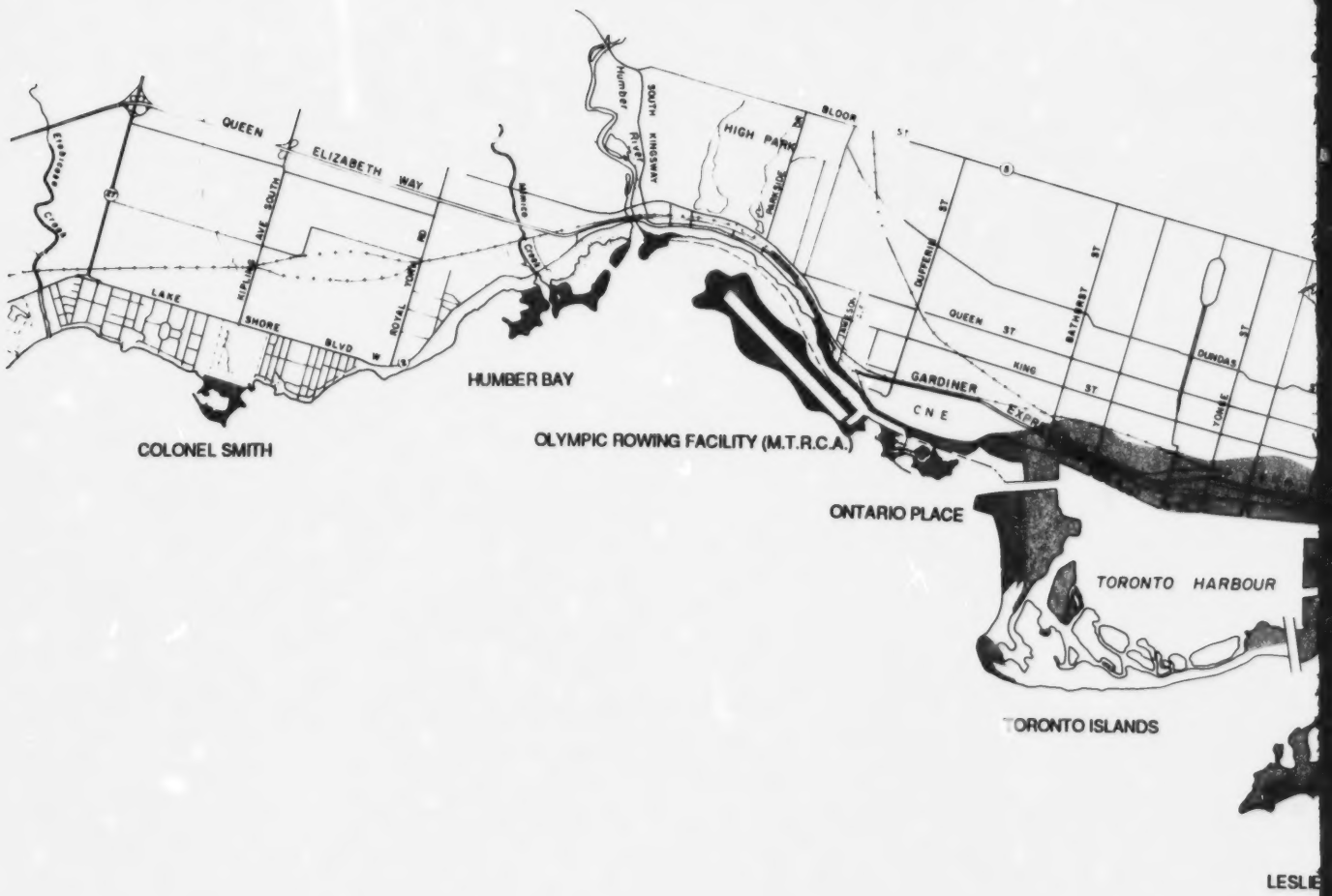
Since the 1970s, much of the lakefilling along Metropolitan Toronto's waterfront has been undertaken to provide recreational facilities. This is most evident in the series of lakefill projects initiated by the Metropolitan Toronto and Region Conservation Authority. Some sites (Humber Bay, Ashbridge's Bay, Bluffer's Park) have already been developed by the MTRCA, and others are in various stages of development (for example, Colonel Samuel Smith, Tommy Thompson Park, and East Point). The MTRCA lakefill projects provide a variety of recreational opportunities, especially marinas and sailing clubs.

Along the shoreline in Scarborough, below the Bluffs, the MTRCA has also undertaken some lakefilling for armouring and erosion control purposes — although at these points, as along shorelines elsewhere, efforts at protection generate a certain amount of controversy, and their long-term effectiveness and erosional and depositional consequences are questioned by some authorities.[1]

1. See, for example, Robin Davidson-Arnott and Reid Kreutzweiser, "Coastal Processes and Shoreline Encroachment: Implications for Shoreline Management in Ontario", *Canadian Geographer*, 29[1985], pp. 256-62, especially p. 259.

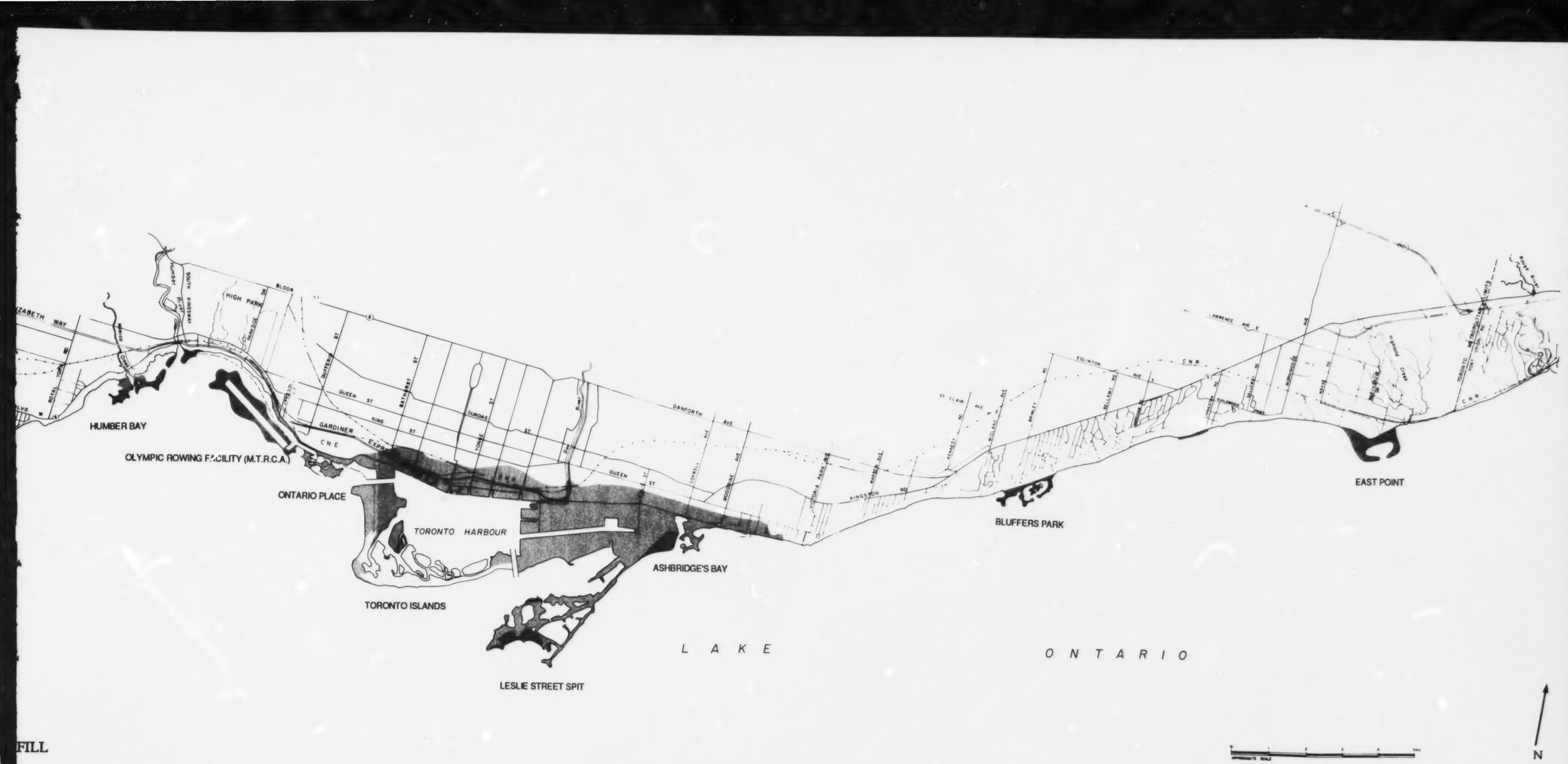
Marinas created by lakefilling at the MTRCA's Bluffer's Park.

Photo courtesy of the Toronto Field Naturalists.



■ COMPLETED LAKEFILL

■ LAKEFILLING UNDER CONSTRUCTION AND UNDER CONSIDERATION



FILL

DER CONSTRUCTION
SIDERATION

LAKEFILLING ON THE TORONTO WATERFRONT

The MTRCA is currently also considering the concept of a lakefill project in Humber Bay, of approximately 121 hectares (300 acres), to create an Olympic-calibre rowing course that would use one million truckloads of fill over roughly five years.

The major current lakefilling project outside the MTRCA's jurisdiction is the Toronto Harbour Commissioners' marina, which is under construction in the Outer Harbour. This large project will have facilities for 1,200 sail and power boats and will transform the shape and use of the Outer Harbour. The THC opposes lakefilling in the Inner Harbour, where another agency, Harbourfront, which has already done a small amount of it, advocates doing more lakefilling at specific locations along its waterfront, in order to provide the open space and parkland needed to meet its commitments to the City of Toronto.

Proposals to hold Expo 2000, a World Fair, in Toronto have recently been announced, and show the site extending over 182 hectares (450 acres) of waterfront, centred on Exhibition Place and Ontario Place, with expansive lakefilling for hotels, marinas, and other uses.

Lakefilling itself is a fairly simple process, and in terms of actual construction costs, a relatively inexpensive one. In essence, it involves displacing water in order to create land. Traditionally the material for the actual fill in Toronto has come from two sources. First, material is taken from beneath water surfaces (e.g., rivermouth, harbour, open shoreline). During much of the first half of the 20th century, this was the chief source of fill, most notably when hydraulic dredging was employed to transform hundreds of hectares in the former Ashbridge's Bay into the vast Port Industrial District.

Second, material has come from the land-side, usually in the form of unwanted urban debris of one kind or another (earth from excavation sites, rubble from building and demolition projects, and, formerly, ash and incineration leftovers).

Although lakefilling has long been a common practice along Toronto's waterfront and is the key component in the City's southward expansion, it has been carried on with only minimal public awareness. That is in striking contrast to the City's expansion upwards, which has always attracted attention, and sometimes even generated controversy and activism.

In recent years, however, lakefilling has become increasingly subject to scrutiny. As a result, a number of issues are now attracting attention and generating some controversy, here as on other waterfronts in North America and elsewhere. As early as 1972, for example, the legal advisor to the Auckland Harbour Board concluded that:

> Legislation making proposed reclamations subject to town planning procedures, with its rights of objection and appeal, is long overdue. This will not mean that no more land will be reclaimed but only that a proposed reclamation will require to be justified in appropriate terms before an appropriate tribunal.[2]

The Ontario Ministry of the Environment is currently considering adopting lakefilling policies. The methods and policies followed until recently for disposing of fill materials and for classifying various grades of material are currently being reviewed and redefined. An appendix to the September 1988 draft version of a report prepared for the MOE by its Lakefill Policy Committee contains an evaluation of legislative processes; it summarizes the relevance of the Environmental Assessment Act to lakefilling:

> There is no specific reference to lakefilling in the Environmental Assessment Act (EAA). However, as a rule, lakefilling is associated with the waterfront development of parkland or marina facilities. Lakefilling is, therefore, subject to Environmental Assessment (EA), if it is part of either a Municipal undertaking, costing more than $3.5 million, or a Conservation Authority project over $1.0 million (Regulation 205). When/if it is covered by these designations it is because it is part of a Municipal or Conservation Authority undertaking and not because it is a lakefilling activity per se.
>
> Current Environmental Assessment policies do not provide specific criteria for lakefilling. For example, at present, a municipal park development involving lakefill with a total cost in excess of $3.5 million would require an individual EA. However, there are no specific criteria on acceptable quality or type of fill under the EAP.[3]

2. E. W. Thomas, "Town Planning and Harbours", *Town Planning Quarterly*, 27 [March 1972], p.13.
3. *Report on Proposed Lakefill Policies*, p. G-1.

One result of this absence of legislation requiring an Environmental Assessment for lakefilling projects per se is illustrated by the current plan to expand the Main Sewage Treatment Plant (between Leslie and Coxwell streets) into the lake. The project will involve more than 26 hectares (65 acres) of lakefilling, some of which will be developed by the MTRCA for open space uses. The proponent of the project, the Metropolitan Toronto Works Department, is simply seeking a Class Environmental Assessment for municipal water and sewage projects and is under no obligation to go through the full and more rigorous individual Environmental Assessment, despite the magnitude of lakefilling involved.

Finally, and most important, two new commitments, both of which shape policy decisions by the federal and provincial governments, are relevant to lakefilling: the concept of sustainable development; and the determination to virtually eliminate the discharge of toxic substances in the Great Lakes. These two imperatives are discussed in a later section of this chapter, but it is worth noting here that the goal of virtual elimination of the discharge of toxic substances is also endorsed in the Municipal Industrial Strategy for Abatement (MISA), an important new provincial initiative.

Issues

The history of Toronto's waterfront suggests that lakefilling became an important part of the City's growth because it was, for so long, regarded either as a wholly advantageous way of transforming water into land or, at least, as a benign kind of environmental manipulation. For decades it was perceived to be an inexpensive and highly profitable way of achieving two goals simultaneously: creating new land, at minimal expense, which could be used for air, road, and rail transportation, industry, port facilities, recreational purposes, etc., and, at the same time, disposing of unwanted bulky material, with minimal haulage costs, simply by dumping it into the lake at the City's waterfront. Only in the last decade has the public begun to question the merits of this long-continued method of facilitating urban growth.

The central issue has been that of environmental costs: once ignored or discounted, environmental costs are increasingly being recognized as a by-product of lakefilling. While it is

often difficult and sometimes impossible to quantify these costs in universally acceptable terms, their significance was recently drawn to attention by the Report of the National Task Force on Environment and Economy (submitted to the Canadian Council of Resource and Environment Ministers, 24 September 1987). The Report, noting that "it is not appropriate to quantify all intangible values in terms of dollars and cents," emphasized that "we must seek to value environmental amenities such as recreational opportunities and aesthetic attributes that contribute to quality of life" (p. 4).

The need to take these costs into account is underlined by one obvious quality of the waterfront: as the Metropolitan Plan Review recently reminded us, the first guideline in policies for planning and developing the waterfront, according to the Official Plan of Metropolitan Toronto, is "the fragile environmental character of the waterfront".[4]

The two somewhat different environmental costs of lakefilling in this fragile environment must be considered here: first, those incurred as a result of the contamination of water and sediments; and, second, costs that represent the value of losses in public amenities. It may well be that the land newly created by lakefilling has been dedicated to such worthwhile uses as marinas, lawnscapes, Ontario Place, etc. But there is now the need — and responsibility — to identify and emphasize another, less benign, side of lakefilling: its environmental costs.

Costs: Contamination of Water and Sediments

Despite the growing number of recent studies of contamination from lakefilling, many of which have been done by or for the provincial Ministry of the Environment, it is extremely difficult to formulate unarguable generalizations about the environmental costs of contamination, and the meaning and validity of data have been questioned. While there is some debate about the precise degree of contamination, there can be no doubt that lakefilling activities have been contaminating lake water by introducing toxic substances into it. Quantitative data establishing this relationship have been available at least since 1982, when one of the first reports providing such

4. Metropolitan Toronto Planning Department, Policy Development Division, *Metropolitan Plan Review: Report No. 7, Parks and Open Space*, September 1988, p. 107.

evidence was printed (Environment Canada, Environment Protection Service, and Ontario Ministry of the Environment Central Region.)[5]

One more or less dispassionate summary of these costs was presented recently in the Metropolitan Toronto Remedial Action Plan volume on Environmental Conditions and Problem Definition[6], and is worth quoting here in full:

> Lakefilling activities are carried out at locations across the Toronto waterfront. These activities affect sediment quality directly through the introduction of contaminated materials and indirectly through the creation of depositional (embayments) areas. Surveys of embayments, created by lakefill projects indicate that many contain an abundance of fine sediments with contaminant concentrations for metals, PCBs and solvent extractables higher than the Open Water Disposal Guidelines.
>
> With regard to the direct introduction of sediment, the most extensive studies into lakefilling have taken place at the East Headland (Leslie Street Spit). Water quality studies have indicated occasional exceedances of PWQO for trace metals (cadmium, copper, iron, lead, and zinc) and DDT near the lakefilling operations. Other organic parameters were generally observed at or near the detection limit. The exceedances observed were localized and were generally smaller than observed near other sources such as the Don River and the Main Water Pollution Control Plant (WPCP). There was no evidence of an impact on drinking water supplies as a result of lakefilling activities.
>
> Sediment surveys indicate localized depositional areas with elevated concentrations of metals, PCBs and solvent extractables. Although the Main WPCP could also be affecting sediment quality in this area, diver observations have noted turbidity plumes moving out from the active face, producing an accumulation of silt over the sand bed. Accumulations of this fine sediment are likely removed by winter storms, but there is a potential for effects

5. City of Toronto, *Lakefill Quality Study: Leslie Street Spit*, August 1982.
6. Environment Canada, Ontario Ministry of Natural Resources, Metropolitan Toronto and Region Conservation Authority, *Metropolitan Toronto Remedial Action Plan — Environmental Conditions and Problem Definition*, September 1988, pp. 72-73.

on benthos during the summer period. Studies have indicated that many metals in the sediments are in bioavailable forms.

Surveys of suspended sediment in the water column near the lakefill have shown contaminant levels in suspension near the bed as high as two orders of magnitude above the levels found in the open lake. The suspended sediment contaminant levels occasionally reach levels similar to those found near the Main WPCP discharge. In general, however, contaminants associated with suspended solids near the lakefill have lower concentrations than found near WPCP discharges or rivermouths.

In terms of contamination levels in the fill, truckfill samples and cores of in-place material indicate that approximately 25 per cent of incoming fill is unacceptable based on lakefill guidelines. MOE has recently instituted a stricter sampling and waybill system in order to deal with this problem. Lakefilling policies are under development and review and should be available within the next year.

Another recent report, this one not produced by a government source, concluded that:

> Lakefilling activities are a direct source of contaminants, but more importantly, they modify the coastal processes which, in normal circumstances, disperse and transport wastes from other sources out of the nearshore. As a result the lakefill sites become in-place pollutant problem areas where the accumulation of contaminated sediments provides a contaminant pathway up through the food chain.[7]

The problems created by lakefill embayments in particular are elaborated on in the September 1988 version of the *Report on Proposed Lakefill Policies* prepared for the Ontario Ministry of the Environment by the Lakefill Policy Committee; it concluded that there is "strong justification to warrant action in relation to embayments" (p.15). Embayments are a common and prominent feature of most of the lakefill sites created in recent years on Toronto's waterfront.

7. *Fishable, Swimmable, Drinkable*, report by Doug Wilkins, April 1988, p. 25.

Other impacts have been identified by other agencies, organizations, and individuals, but there is a range of views expressed by these different sources. A particularly valuable, seemingly fairly objective assessment has recently been presented in a comprehensive report prepared for the Lakefill Task Force of the Ontario Ministry of the Environment. It is worth consulting both for more details and for its overall conclusions.[8]

Costs: The Value of Public Amenity Losses

If there is magic on this planet, it is contained in water.
Loren Eiseley

Open water surfaces and expanses are an important public amenity, especially when they are adjacent to a large metropolitan area. The mere existence of an open, breathing water's edge has psychic and therapeutic value for all city dwellers. While it isn't possible to quantify the value of this public amenity, it is clearly vital to the enjoyment of an urban environment.

Therefore, lakefilling has environmental costs other than the pollution it causes. Sometimes, when lakefill has been created at the water's edge, the value of open water as a public amenity has been lost because newly created land was sold for industrial or commercial purposes and passed into private ownership. Although such losses are much less common today, they still occur as, for example, when Harbourfront filled in a slip to create land with the potential for private residential development, or when parts of the Leslie Street Spit were designated for club uses (private and community clubs). Any such reversion of a public amenity to private uses or to special user groups represents a loss to the public at large.

While lakefilling often creates new water frontage, it does cause losses to the frontage it adjoins, or the near-shore created land diminishes the frontage, by obscuring and reducing open expanses of water. A public amenity has either been lost (when existing waterfront is filled in) or lessened in value (when land is created close to it).

8. *An Evaluation of Lakefilling Activities in Ontario*, one volume entitled *Final Report*, and another entitled *Appendix*, prepared by Environmental Applications Group Limited, in association with F.J. Reinders and Associates Canada Ltd., Victor and Burrell, February 1988.

The consequences that follow every lakefill project have traditionally been discounted as either intangible, or difficult to measure, or both. Thus, for example, there has been a tendency to overlook the fact that each lakefill project destroys habitat, alters natural wave and current depositional regimes, and reduces the surface and volume of water, thereby reducing the natural regenerative capacity of water in the harbour and in embayments.

The fact that the practice of lakefilling along the Central Waterfront has been going on in Toronto for more than a century has had a long-term adverse impact and cost. With an ever-moving shoreline, the buildings, structures, and sites on the former waterfront have become landlocked, and have lost their historical waterfront meaning and context; today's visitor to Fort York, for example, may be forgiven for wondering about its historic military importance: how can its role be understood in isolation from its location at the water's edge? The same is true of the Gooderham and Worts plant, and of Front Street.

A shifting shoreline has prevented the City of Toronto from developing a permanent face on the water. Furthermore, until recently, the new waterfront has been psychologically and often physically inaccessible. (It is probably true that few Torontonians even have any sense of where the waterfront is between, say, Leslie and Cherry streets.)

The costs and drawbacks of lakefilling have sometimes been dismissed on the grounds that "this project involves only a tiny bit of a vast lake" — an illusory argument at best. It ignores the incremental impact of continued lakefilling, and does not take into account the decidedly finite nature of open water as a resource.

The provincial Environmental Assessment Board declined to address the problem of cumulative lakefilling during the only hearings ever held on a Toronto waterfront lakefill project. In mid-1980, data were presented to the Board at hearings on the Colonel Samuel Smith project; they showed that, as the result of lakefilling by the MTRCA along the Toronto waterfront, by 1980 approximately 6.5 per cent of the available littoral zone had been lost, and that the project under review would result in an additional .5 per cent being lost. The Board acknowledged that the total loss and the trend to cover the littoral zone "could be considered to be significant," but went on

Lakefilling for Colonel Samuel Smith Park.

Photo courtesy of Toronto Field Naturalists.

to say that it "... did not have the jurisdiction in the hearing, nor was it provided with sufficient evidence, to comment on the potential effects of continued landfilling operations along the entire waterfront".[9]

Or, to look at the situation from a different perspective, it is worth recalling that the Inner Harbour is now much diminished, a more congested body of water than it was a few generations ago. Nonetheless, the THC is beginning the diminishing process all over again with a large lakefill project (the Outer Harbour Marina) bisecting the Outer Harbour. Can anyone argue that we have an inherent right to leave our descendants with a lesser lake — smaller in littoral zone or surface area — than the one we inherited?

Even the broad sweeping expanse of Humber Bay is now being threatened. Large lakefill projects at its western end have been built by the MTRCA; there are new proposals to "smooth out" the waterfront by lakefilling in the centre of the Bay's shoreline; and a vast lakefill project being considered by the MTRCA would fill in about 121 hectares (300 acres) in an obtrusive project that would cut across much of the Bay's width.

Should Humber Bay be transformed in these ways without any consideration of the costs of the transformation? The Bay is a public amenity, enjoyed both by sailors on the water and by those viewing its open expanses from the land, and it affords some of the most remarkable vistas in Metropolitan Toronto. (Looking southward over it, one can enjoy uninterrupted views to the far horizon where water and sky meet. Or, approaching Toronto from the west along the lakefront, the Bay offers dramatic views of the City's centre looming beyond the broad expanses of the Bay's open surface.) Since Humber Bay is a public amenity, the loss or degradation of this public resource must be weighed against any supposed benefits.

Writing a quarter of a century ago about "Cities and the Sea", the distinguished Canadian architect James Acland noted that:

9. Environmental Assessment Board, Environmental Assessment Act Hearing: Colonel Samuel Bois Smith Waterfront Area Master Plan, December 1980, p.39.

> The penumbra of magic which flits over the shore acclaimed by poets and painters throughout history may appear as a tenuous or exotic base for a study of planning expedients for towns by the sea, and yet it is just in this area of human value and emotional response to climate and environment that planning has failed in the past. Without consideration of the theatre of the senses the plan develops only as a dry practical machine, shunned by the very people for whom it was executed.[10]

While the benefits of lakefilling have been frequently assumed and extolled, too little consideration has been given to environmental costs and the value of public amenity losses. The only lakefill in Toronto to receive an environmental assessment was Colonel Samuel Smith Park, which was evaluated under provincial regulations. The traditional failure to count environmental costs, which a federal Minister of the Environment once described as "cooking the books", is no longer deemed acceptable. As the Report of the National Task Force on Environment and Economy has emphasized:

> Environmental considerations cannot be an add-on, an afterthought. They must be made integral to economic policy making and planning....[11]

Other Issues

In addition to larger questions of environmental costs and the value of lost public amenities, there are some other specific issues worth discussing.

1. A recent change gives the MTRCA responsibility for regulating lakefill quality. The choice of the chief advocate of lakefilling as chief regulatory agency is curious at best and, at worst, could be perceived as a conflict of responsibility. While MTRCA will carry out its regulatory functions under supervision of the Ministry of the Environment, the effectiveness of such supervision will depend a great deal on the funding and resources allocated to it. Furthermore, while the MTRCA will regulate the quality of the fill material, it has no policy on the merits of lakefilling per se, and there is no policy of any other body to guide or control its actions in this respect.

10. *Canadian Architect*, vol. 8, April 1963, p. 46.
11. *Report to the Canadian Council of Resource and Environment Ministers*, 24 September 1987, p. 6.

2. The THC's role in lakefilling appears to be anomalous: while opposing lakefilling in the Inner Harbour, it is currently well advanced in a major lakefilling project in the Outer Harbour. Without a coherent policy on lakefilling per se, it makes decisions on what it perceives as the public interest, as interpreted solely by the THC. Moreover, as a federal body, the THC is not required to comply with provincial policies or regulations; although it recently agreed to follow the lakefill quality program being administered by the MTRCA, it did not submit its Outer Harbour project to any federal or provincial environmental assessment, and its own voluntary environmental evaluation of the project was not comprehensive.[12]

3. There are important differences in the history of past lakefilling projects in the three Metro waterfront municipalities and in the potential impact of future proposals, all of which will have to be taken into account in any attempt to develop a waterfront-wide lakefilling policy.

   The City of Toronto is currently establishing a lakefilling policy in its new waterfront plan, the first comprehensive and systematic statement of policy on lakefilling adopted by any of the waterfront municipalities. However, crucial sections of the policy are vaguely worded, as, for example, the reference to "clear public benefit", and the acceptance of "an appropriate written analysis of the environmental impact" as a substitute for a formal environmental assessment. In any event, the policy does not apply to harbour waters under the jurisdiction of the THC. Neither Etobicoke nor Scarborough has any comparable comprehensive lakefilling policy (and both have significant areas of waterfront that are in private hands).

4. On the Scarborough and Etobicoke flanks of the waterfront, the matter of ownership of waterlots is an issue, or potential issue, at some sites. Currently, all waterlots not in private hands are held by the Ontario Ministry of

12. See THC *Report on the Planning of the Outer Harbour Public Marina*, March 1986, especially comments on p. 2-13 of the Phase I Report and p. 2-64 of the Technical Report; and the report for the THC prepared by Beak Consultants Limited on *Toronto Outer Harbour Exchange, Mixing and Water Quality Study*, April 1986.

Natural Resources; in order to acquire a waterlot in front of lands owned to the water's edge, the owner of the abutting property can simply make application to the appropriate Regional Office of the MNR, which makes the decision. There is no provision, although the Province could develop one, to ensure public consultation before a waterlot is granted to the abutting property owner.

In summary, there are some lakefill issues common to the entire waterfront, as well as some specific local variables. However, there is not, nor has there ever been, a waterfront policy on lakefilling, either to deal with issues confronting the entire waterfront or to resolve locally significant issues.

Opportunities

The chief opportunity available to the relevant municipalities is to define and implement a waterfront-wide lakefilling policy, one that deals with the merits of lakefilling as such, and does not confine itself to just the issue of the quality of material used as fill. There are two recent national commitments that such a policy must both reflect and reinforce.

1. Both the federal and provincial governments have agreed to the Canada–U.S. Great Lakes Water Quality Agreement of 1978 as amended by Protocol of 1987. Of especial relevance to lakefilling are the agreement that "persistent toxic substances be virtually eliminated" (Annex 1, reiterated in Annex 2 and Annex 12), the responsibility to adopt "a systematic and comprehensive ecosystem approach" (Annex 2), and the adoption of specific approaches to the problems posed by contaminated sediment (Annex 14).
2. Canada was a strong supporter of the World Commission on Environment and Economy and has unreservedly committed itself to sustainable development, a stance that has been reiterated several times by Prime Minister Brian Mulroney, including a speech in Hamilton on 19 October 1988, when he said:

> We fully support the recommendations of the Brundtland Commission... sustainable development means that in considering any development, any project, any program, we will make its environmental consequences as fundamental a test as we now apply to its economic feasibility.

Support of the GLWQA and of sustainable development mean that governments face a formidable challenge: gone are the days when using lakefilling along the waterfront was viewed as an efficient disposal-creation method, and the true costs of reshaping the lake were ignored.

Formulating and executing a new approach will doubtless require some drastic changes — for example, in what we do about material disposal — but, as the former federal environment minister told the United Nations, "Mere tinkering with the status quo is not enough".[13]

The need to adhere to both the concept of sustainable development and the more specific goals of the Great Lakes Water Quality Agreement may make it necessary to suspend lakefilling while a policy is formulated and implementation measures adopted to ensure that, in future, it meets these new, high standards. If we do not rise to the challenge we will, by default, have decided that, in the words of Donald Chant, "the all-important phrase sustainable development simply translates as continuing development — in the same old ways and leading to the same old problems".[14]

Precedents could perhaps provide practical guidance in formulating a lakefill policy, and studies of them should be considered before any final policy making decisions are made. The following are only a small sample of the factors that must be considered in formulating a lakefilling policy.

1. Traditionally, the development industry has paid little or nothing for depositing its fill in the lake; therefore, disposal costs have represented a minute fraction of total development costs.

13. *The Globe and Mail*, 9 September 1988.
14. "Debate on Environmental Mired in the Past," *The Toronto Star*, 17 November 1988.

2. Toronto can probably learn a lot from experiences elsewhere: for example, the lakefront city of Chicago has experienced a construction boom in recent years but has not used the lake for large-scale fill disposal. In San Francisco, the efforts of a citizens' group in the early 1960s to stop shrinkage of San Francisco Bay were ultimately successful: despite a long tradition of damming, diking or filling of the Bay by cities, counties, ports, airports, private developers, and freeway builders, the San Francisco Bay Conservation and Development Commission (SFBCDC) was set up in the late 1960s to cut through the tangle of federal, state, city, and county jurisdictions in order to establish waterfront-wide policies and practices. Some would argue that the SFBCDC has not been entirely successful, but it has at least kept the size of the Bay "relatively constant while accommodating a great deal of shoreline development", according to Robert R. Tufts, chairman of the SFBCDC, and its executive director, Ian R. Pendleton.[15]

There is probably also something to be learned from the excavation and disposal practices of landlocked cities that do not have adjacent lakes into which they can dump fill.

3. There is a need for increasing the recreational uses of the waterfront without constantly expanding into the lake. The existing parklands on the Toronto Islands, for example, are under-utilized, and suggest that more could be gained, at less cost, by increasing access to the Islands (perhaps by ferrying visitors across from sites such as Marine Terminal 35 in the Port district, where there is, incidentally, lots of space for parking).

The development of a waterfront-wide lakefilling policy will not happen overnight. For this reason, the same body or intergovernmental agency charged with producing the policy should also be charged with developing an interim approach. The purpose would be to ensure that the waterfront would not

15. "Has the Bay Been Saved?", *California Waterfront Age* 1(1985):33.

be further changed by lakefilling in ways that would foreclose the kinds of options being considered as permanent policy. Both the new policy and the interim approach should be developed by the provincial and federal governments acting in concert (and should obviously eliminate the continuation of jurisdictional anomalies such as those that permit more or less independent lakefilling activities by the THC, Harbourfront, or any other body).

The World's first condominium complex built on landfill created from shredded documents.

Cartoon courtesy of *The New Yorker*

3. Heritage Preservation: "What Time Is This Place?"

Background and Current Situation

While the value of both heritage in general and Metropolitan Toronto's waterfront in particular have been officially acknowledged, there has never been an effective, coherent approach to the preservation of Toronto's waterfront heritage.

Official concern, as expressed in plans, couches concern for heritage in the most general terms. One example is the Official Plan of Metropolitan Toronto, which contains references to heritage preservation in four separate sections:

> The Corporation, within its jurisdiction and specifically with respect to its properties, shall encourage and pursue programmes and actions which protect places and structures of importance to the heritage of the Metropolitan Community (Section 9.G).
>
> Heritage resources exist throughout the Planning Area and their conservation will be a factor in consideration of development (Section 3.B.4[d]).
>
> ... in approving plans or projects to develop the waterfront, Council shall be guided by... areas of historic interest (Section 8.E.1(g)).
>
> ... The Exhibition Park Plan will have consideration for ... preserving, where feasible, the existing structures and monuments which reflect the historical development and character of Exhibition Park (Section 8.F.2[d]).

Another example of official concern for heritage preservation is provided in Harbourfront's 1978 *Development Framework*; the objectives, designed to serve as guides for the treatment of the site, include the goal of developing Harbourfront in accord with its "special location, conditions and history" (Harbourfront Corporation, *Harbourfront Development Framework*, Toronto, October 1978, p.7). It should be noted that the proposed revised goals for Harbourfront contain no mention of history or heritage (*Policy Review: Role and Mandate of Toronto Harbourfront Corporation*, Public Works Canada, 18 September 1987, pp. 8-9).

The City of Toronto's Official Plan, adopted by City Council in 1976, contains a general statement that "Council will designate buildings and sites of historical or architectural merit and

take all necessary steps to ensure their preservation" (City of Toronto Official Plan, April 1981 edition, Section 1.1.h). In practice, however, the City can do little to preserve designated buildings when owners are determined to demolish them.

Bill Pr 57, a 1987 amendment to the *City of Toronto Act*, gives City Council some flexibility in dealing with owners who wish to redevelop sites containing designated buildings: the owner now has to have a building permit for the proposed new development before applying for a demolition permit and, during the approval process, the City can seek to induce the developer to preserve part or all of the threatened building(s) by offering density bonuses and transfers, as well as other incentives. This process does have several drawbacks, however: (a) it can be used by a developer to gain density increases or other benefits from the City, even though the developer may have no real intention of destroying the building(s) in question; and (b) it is ultimately the developer who decides the fate of the threatened heritage building(s).

In Canada, the development of legislation to protect heritage buildings is a responsibility of provincial governments; in Ontario, the key legislation is the *Ontario Heritage Act*, 1974. However the Act provides municipalities with little effective power to preserve threatened sites, and even designated properties are lost from time to time. (A detailed account of the *Ontario Heritage Act*'s shortcomings, compiled by the Toronto Historical Board, was sent to the Province by Toronto City Council, as part of one of its repeated requests for amendments to the Act that would facilitate preservation of the built heritage.[16]) In 1987, the provincial government initiated an Ontario Heritage Policy Review (OHPR) to examine activities, legislation, and programs with a view to creating a policy framework within which government programs and legislation could be improved.[17]

In 1980, the provincial government provided guidelines on the built-heritage component of environmental assessments, produced as a supplement to the *General Guidelines for the Preparation of Environmental Assessments* (Ministry of the Environment, 1978):

16. See *Report No. 20* of the Neighbourhoods Committee, adopted by Toronto City Council, 29 October 1984.
17. See documents produced by the Ontario Heritage Policy Review (Ministry of Culture and Communications) for further details.

> The cultural heritage guidelines translate into specific terms how an important aspect of environmental assessments should be undertaken. Their general aim is to maximize consideration for the conservation of heritage resources in the environmental planning process....
> (Ministry of Culture and Recreation, *Guidelines on the Man-made Heritage Component of Environmental Assessments*, prepared by John Weiler, September 1980, p.i.)

The guidelines indicate that, in assessing the built environment, consideration must be given to a variety of attributes of buildings, including their historical associations and context, as well as to architectural and engineering qualities. Relevant history includes a building's associations with well-known events and persons, and with endeavours that affected a substantial population or geographic area. Thus an historic waterfront shipbuilding site or iron foundry would qualify for consideration (although examples of both were demolished in Harbourfront).

Unfortunately, these are only guidelines and, in any event, many parts of the waterfront do not come under the Province's *Environmental Assessment Act*, because the legislative context for heritage preservation is complicated by jurisdictional variations. Provincial legislation, including the *Ontario Heritage Act* and the *Environmental Assessment Act*, does not cover properties in Ontario — many of them on the waterfront — that are owned by either the federal government or its Crown corporations.

The resulting problems were recently illustrated by the conflict over the fate of the Canada Malting complex in Harbourfront, and, even more blatantly, by Harbourfront's demolition of important historical structures, including some listed on the City of Toronto's Inventory of Buildings of Architectural and Historical Importance. Because Harbourfront is federal, buildings within its boundaries cannot be designated under the *Ontario Heritage Act*, and the City of Toronto is powerless to act there. Under the provisions of the Federal Heritage Buildings Policy, preservation is not ensured, only "encouraged". Harbourfront, however, has not been following the Federal Heritage Buildings Policy. (Further details on jurisdictional problems can be found in the Toronto Historical Board's report to the Neighbourhoods Committee of City Council, 19 June 1987).

The current situation gives evidence of two conflicting tendencies: on the one hand, there is some official recognition of the value of heritage preservation and a degree of public support for it; government and non-government advocacy groups certainly articulate the need for preservation — often mounting rearguard actions to save specific buildings imminently threatened by destruction. On the other hand — and the semblance of support for preservation notwithstanding — the reality is that the waterfront heritage is not being preserved. Moreover, there is no overall organized attempt to develop a systematic approach to saving it and parts are being demolished without any regard to the ultimate consequences of piecemeal destruction.

The net effect of these conflicting tendencies is that the heritage of the City's Central Waterfront, in the segment between Yonge and Bathurst streets, has been virtually obliterated. In just the past two decades, most traces of the past have been destroyed. There are two striking exceptions: the Queen's Quay Terminal building, the multi-use rehabilitated version of the former Terminal Warehouse, and the Canada Malting complex of offices and grain silos. Unhappily, the fate of this latter complex is still uncertain, despite strong and articulate presentations of the case for its preservation.

Issues

Some of the relevant issues were articulated during the recent debate on the future of the Canada Malting site, a debate made necessary by the company's decision, announced approximately two years ago, to vacate the site. A few contributions to the discussion are worth reviewing here, because the clash of views illustrates issues of general importance. One strong case for preservation appeared in a Toronto newspaper editorial:

Save the Grain Elevator

The Canada Malting Co. grain elevator at the foot of Bathurst St. may not seem like a piece of Toronto's history worth saving. After all, its concrete silo is just 59 years old and hardly in the same architectural league as, say, an old city hall.

But this waterfront grain elevator is an important symbol of Toronto's industrial heritage. Not only was it used to store and process tonnes of western Canadian barley for use in the making of beer, but also its design helped to inspire the modern highrise.

In the fall, Canada Malting is moving out. Some people want the elevator torn down to make way for some highrises or parkland. That would be a mistake.

There are too few symbols of the great shipping era left in Toronto. The Maple Leaf Mills grain elevators that once stood next to Canada Malting were torn down a few years ago to make way for Harbourfront development, as were many other old waterfront industrial buildings. Those that remain — like the 60-years-old Terminal Warehouse building, the old ice house, and the power plant — have been miraculously transformed. The terminal building, once a rat-infested warehouse for fish and other food shipped into Toronto's port, is now an award-winning collection of condos, offices and shops. The nearby ice house that served it has been turned into a theatre, and the power plant has become an art gallery.

Wouldn't the old grain elevator make a magnificent civic museum celebrating Toronto's colourful history and the birth of its waterfront?
(*The Toronto Star*, 30 August 1987.)

Another preservationist point of view was expressed in a letter to the editor of *The Globe and Mail*, written by the architect who played the major role in rehabilitating the Terminal Warehouse, now the Queen's Quay Terminal building:

Silos Are Like Castles

Re Councillors Are Down On Elevator (Aug. 15):

The world is paying homage to the ideas and work of Le Corbusier, one of the great architects of our time. Even Toronto is hosting a retrospective of his work. Le Corbusier's ideas about a new architecture were in part inspired by the grain silos of North America. The forthright technology expressed in the grain silos seemed to him a powerful symbol of a future to come.

The Canada Malting grain silos are more than an historic industrial site: they symbolize the role of the waterfront in the City's economic development.

Photo courtesy of Sally Gibson.

These silos are a vital part of the history of Canada in the same way as the brooding castles of Europe reflect the past. Both structures were born out of the needs of their time and have become symbols of an era and a country. It is therefore disturbing that Toronto City Council has rejected the [Canada Malting] silos at Harbourfront as historic landmarks.

I hope the council will reconsider its stand, because we would today take a rather dim view of a council in Europe that had condemned their castles to demolition because they had become useless. The silos are not useless in the memory of a collective Canadian consciousness. Furthermore, there are examples around the world where silos have been put to new use, such as a hotel in Akron, Ohio.

Why can't we keep our memories and put them to new use?
(signed) Eberhard H. Zeidler, Zeidler Roberts Partnership, Architects, Toronto
(*The Globe and Mail*, 6 September 1987.)

Taking a firm stand on the other side were a couple of municipal politicians, one of whom wanted to tear down the complex on the basis that it was "a monumental obstruction" and "would make good landfill". Another proclaimed that "It's so ugly that it's a crime to have this building continue to stand" (*The Globe and Mail*, 15 August 1987).

In a feature story entitled "Harbour Silos: Eyesores or Priceless Heritage", a journalist summed up the conflicting perceptions:

Along Toronto's sleek new waterfront the Canada Malting grain elevators stand as a towering reminder of our past.

To some the patched concrete silos are ugly, useless blots on the otherwise harmonious Harbourfront landscape and deserve a fate no better than the wrecker's ball, or better still, dynamite.

To others, they are romantic symbols of Toronto's waterfront history, recalling the days when shipping flourished on the Great Lakes.

To still others, they are magnificent structures in their own right, powerful images that inspired the great modern architect Le Corbusier. Considered to be the root of modern architecture, elevators represent the "first fruits of the new age", he wrote. The work of North American engineers, they rang "in unison with universal order". (*The Toronto Star*, 4 October 1987.)

The whole controversy brings into focus some of the key issues in waterfront heritage preservation:

1. *The built environment includes industrial buildings worth preserving.* Structures built to house industry are a special type of built environment, no less worthy of attention than any other specimens that survive in the present urban landscape. For more than two decades, there has been a growing concern over what has come to be called industrial heritage. Obsolete industrial buildings and areas may be aesthetically unsatisfactory ("ugly") to some people's tastes, but in conserving the past, we are called on to remember that people did not simply live in homes and go to religious buildings, concert halls, or public edifices. They worked, and those places of commerce and industry have as great a claim on our interest as any others. Further, as the author of one study of industrial waterfronts has noted, "not only is the evidence of our industrial world a significant part of the scene but ... in the 20th century it has made the major monuments". (Jeffery Stinson, "The Conservation of Unlistable Buildings: Strategies for the intelligent reuse of moribund industrial waterfronts", unpublished M.A. dissertation; York University, August 1986, p. 46).

2. *The built environment includes the ordinary.* Heritage preservation was once concerned exclusively with buildings of special eminence, such as palatial residences and elegant architectural structures. But that which is prosaic and mundane has come to claim equal attention because it has often touched the lives of more people than grander structures: for example, the apparently humdrum building housing the Canary Restaurant at the corner of Front and Cherry streets. A recent feature story, "The Incredible Hulk", noted that the Canary Restaurant is:

The Canary Restaurant: old, well-used haunts may be important pieces of waterfront heritage.

Photo courtesy of Jeffery Stinson.

... a breakfast, lunch and dinner spot for the scrap yards, auto-body shops and warehouses in the area, but the building itself is also home to a small but lively community of artists and photographers, loft dwellers and small businesses....

(*Toronto Magazine*, November 1988, p. 41.)

The story goes on to reconstruct the 130-year history of the building in its successive roles as a school, hotel, and shipping depot before it became a restaurant. Although the property has now been expropriated and some of its inhabitants evicted (it is part of the district to be developed for the St. Lawrence Square housing development), the original structure of the Palace Street School will remain and has been listed on the City of Toronto's Inventory of Buildingsof Architectural and Historical Importance.

3. *At present, the built environment is inadequately protected.* There are some serious gaps and inconsistencies in the legislation, in the definition, in the division of responsibilities for heritage conservation, and in the availability of resources. Amendments to the *Ontario Heritage Act* would strengthen the statutory protection of heritage resources, improve the designation process, and provide better enforcement and appeal procedures. There are anomalies in the current approaches to land use planning and development under the *Ontario Heritage Act* and the *Planning Act*, which must be addressed. Both the *Planning Act* and the *Environmental Assessment Act* have the potential to require heritage preservation, but in practice they are not being effectively used for this purpose.
4. *The economic advantages of heritage preservation are underestimated.* The destruction of historic parts of the built environment is generally explained in terms of short-term economic goals: buildings are not likely to survive when they are perceived as obstacles to lucrative redevelopment, particularly on sites where proposed projects accord with existing zoning and density levels. However, it is increasingly evident that preservation of the built environment can be economically advantageous.

> Maintaining, restoring, rehabilitating, and recycling our property can often provide usable space at less cost than equivalent new building. It can also create more jobs in relation to project costs than new construction because of the labour-intensive nature of the work, and saves on the overall consumption of non-renewable building materials and energy normally used in new building projects. Conservation of our man-made heritage can also provide opportunities for economic benefits from tourism. It can be said that the environment is the indispensable basis, the major attraction, for tourism.
>
> (John Weiler, "Planning and the conservation of man-made heritage in Ontario", in Mark Fram and John Weiler (eds.), *Continuity with Change*, Toronto, 1984, p. 14.)

The role of the rehabilitated Terminal Warehouse as a magnet attracting both tourists and city residents to Harbourfront is an obvious illustration of how economic returns can come from heritage preservation.

5. *The historical context of buildings is as important as the buildings themselves.* Grain elevators were an extremely important constant in the evolution of the Central Waterfront: they were staging areas between the competing yet complementary modes of transportation provided by railways and waterways. This point of transfer symbolizes the links between the City and its hinterland, and it is this connection that made the City grow and prosper. The elevators of Canada Malting are more than a generic "industrial building" — they symbolize a dominant theme in the waterfront's role in the City's economic development during the 19th and 20th centuries.

6. *Too often, the debate on heritage preservation is couched in purely economic terms.* The potential economic benefits of heritage preservation, however impressive, are not the main reason for preserving historical components of the built environment. The instinct to cherish and preserve parts of the past reflects a deep-seated human need for continuity and context — a sense of where one fits into the larger or grander scheme. Old, well-used, and familiar

surroundings play a major role in maintaining a sense of security and well-being, particularly in large cities, where people are vulnerable to feelings of isolation and purposelessness.

According to Peter Marris, the basic concern behind heritage preservation is the recognition that "the townscape ought to reflect our need for continuity, and the more rapidly society changes, the less readily should we abandon anything familiar which can still be made to serve a purpose". He observes that even when redesign and rebuilding might produce more efficient and more practical structures, it is worth pausing to consider whether the resultant abrupt discontinuities are worth the stresses they set up. He notes that "there is a virtue in rehabilitating familiar forms which neither economic logic nor conventional criteria of taste can fully take into account, and we should at least recognize this, before we decide what to destroy".

(Peter Marris, *Loss and Change*, London, 1974, p. 150.)

In short, the inherited built environment is worth conserving because it is fundamentally meaningful and useful to people.

Opportunities

The central opportunity is to develop and implement a waterfront-wide heritage preservation policy. Much of the waterfront heritage has already been destroyed, especially in the western half of the Central Waterfront. But much remains, all along the waterfront, in sites as different as the Guild Inn, the former Lakeshore Psychiatric Hospital, and the Port Industrial District. The policy must encompass and reinforce this variety. It will also have to resolve jurisdictional problems, eliminating anomalies created by the differing approaches to designation and preservation being followed by different levels of government.

It is impossible and would be inappropriate to set forth the ideal policy here: developing it will require consultation and shared expertise among authorities in the field of heritage preservation in general, and the field of waterfront re-use in particular, as well as the co-operation of representatives of all levels of government. It is appropriate, however, to draw attention here to a number of considerations that will have to be taken into account in framing such a policy.

1. It must be based on a waterfront-wide preservation strategy rather than a haphazard concern with a few specific, scattered sites or buildings.

2. Adaptive re-use will have to be an essential ingredient (as it was for Queen's Quay Terminal, and as proposed for the former Lakeshore Psychiatric Hospital). The case for adaptive re-use of buildings was made in a study produced by Etobicoke's Planning Department.

   The advantages of adaptive re-use are becoming clear and recent Provincial interest has initiated a number of programs supporting re-use... Both the private and public sectors have realized that adaptive re-use can produce interesting and unique residential, office, retail, and recreational space... The premise for re-use of an old structure is continuity, keeping a link to the past. The past role of a structure in an urban setting can be very important in understanding the development of the area. Community acceptance of adaptive re-use is often greater than for demolition and redevelopment... Renovating a building in an older area can have spin-off effects and can lead to the upgrading of other buildings in the area.

   (Borough of Etobicoke Planning Department, *The Lakeshore Psychiatric Hospital Study*, by Laurie McPherson, 27 May 1983.)

3. Preserving just the refurbished shells of historic buildings is a questionable exercise in preservation. When a building is made into something so new that all signs of age have been removed, it has little if anything of historical value left. (Such buildings are said to have been lobotomized, with the Faneuil Hall Market in Boston sometimes cited as an example, because "all effects of age were removed, and all of the residue of its former uses sanitized or cleared away" — R. Randolph Langenbach, "Continuity and Sense of Place: The Importance of the Symbolic Image", in Hugh Freeman, ed., *Mental Health and the Environment*, London, 1984, p. 458.)

4. Total destruction is as inappropriate as total preservation. When massive change occurs almost everywhere at once or in a very short space of time (as happened at Harbourfront) the historic waterfront environment is

obliterated. Such an approach deprives us of the advantages of a townscape within which old and new elements co-exist, provide continuity, and offer a richness that is both informative and enjoyable. In essence, the approach of total newness is the same as the now discredited mid-twentieth century approach to urban renewal, in which "substantial areas of used environment [were wiped out] at great psychological and social cost, to be replaced by new settings that lack many desirable features of the old". (Kevin Lynch, *What Time Is This Place?*, Cambridge, Mass., 1972, p.37.)

Thus the selection and treatment of what is to be preserved has to be carefully considered. Ideally, the result will be an urban landscape commingling old and new elements, which will have a depth and human meaning unequalled by a landscape comprising elements from only one period.

5. Public involvement is essential in deciding what parts of the built environment are to be preserved. This is the most effective way of ensuring that the *collective* values and memories of society are preserved in the urban fabric, rather than just the values and tastes of any one group.

6. Key elements in the waterfront's history are the slips and water's edge of the traditional port (between Bathurst and Leslie streets). This water's edge was the locale of the activities of the working waterfront, and the buildings and structures that are richest in historical waterfront associations are concentrated here. The water's edge should therefore be treated as an integral component of the waterfront heritage, an historical trace that demands special preservation treatment.

7. The waterfront heritage preservation policy must be sensitive to the value of ordinary buildings, structures, and sites, as well as those that are exceptional. Some more contentious preservation issues will have to be confronted (should old buildings be relocated? restored to their original state? rehabilitated?, etc.).

8. In the waterfront-wide strategy, what remains of the area of traditional port and industrial activity (east of Yonge Street, to Leslie Street) will require special consideration. This is a district of particularly important potential value

for heritage preservation, especially because so much of the old working waterfront west of Yonge Street has been erased. Along the waterfront to the east of Yonge Street, however, there is still much evidence of the waterfront's historic role. There is, of course, some port and industrial activity still present in the area. The necessity to mesh preservation efforts with activities of the working waterfront will no doubt create special challenges.

9. There is a need for concerted efforts to understand the historical development of the waterfront's built environment. Its context (and hence, its preservation value) cannot be understood unless more is done to establish the reason a certain type of building was constructed, what its role was, and how it evolved. Eric Arthur's classic, *Toronto: No Mean City*, helped to highlight the architectural richness of the City's built heritage, but little is known of the waterfront in these terms. Historical research and heritage assessments will help develop an awareness of the patterns and qualities of our waterfront heritage.

10. The successful implementation of a waterfront heritage preservation policy will depend on the effective use of both regulatory measures and incentives. The provisions for heritage protection under the *Ontario Heritage Act*, the *Planning Act*, and the *Environmental Assessment Act* should be strengthened. There is an opportunity to explore a range of financial inducements, including property and income tax incentives, increased grants and matched funding programs, a waterfront heritage foundation, etc.

11. Increased co-operation amongst the four levels of government, the private sector, and voluntary organizations will be essential in developing and implementing a waterfront heritage preservation strategy.

These are the major considerations that will have to be taken into account in formulating a waterfront heritage preservation policy. Elsewhere there have been some partial successes in efforts to preserve old waterfronts under redevelopment: Quebec City and St. John in Canada, Boston and Savannah in the U.S., London and Liverpool in the U.K., and Sydney, Australia. There may well be something to be gained from studying these precedents: what structures were preserved,

and how? what process and legislation made preservation feasible? But the uniqueness of Toronto's own history and current situation is our greatest asset. As Gary Hack has noted, "Attempting to duplicate another city's successful waterfront formula is a sure prescription of failure. The best waterfronts capitalize on the special qualities of how a city meets the water, and the meanings which that water's edge has to residents". (Gary Hack, *Recharting a Course for Harbourfront*, prepared for Public Works Canada, Carr, Lynch Associates, Cambridge, Mass., July 1987, p.1.)

Heritage preservation is one of the best ways to capitalize on those special qualities and meanings. The preservation of important elements of Toronto's waterfront heritage will ensure that the Toronto waterfront remains unique and special to Toronto, and will enable us to avoid the sameness and replication that is coming to characterize waterfront redevelopment efforts in many North American cities.

4. Natural Areas and Wildlife: "Where the Wild Things Are"

Background and Current Situation

For the purposes of this Report, the term natural areas encompasses all those open spaces where natural ecological processes and natural vegetation are dominant. These include both the remnants of the original natural environment of the Lake Ontario shoreline, and other areas where ecological communities are developing through natural succession (as on the Leslie Street Spit). We consider wildlife to include all animals and plants, both aquatic and terrestrial.

Canada has a strong international responsibility to protect wildlife habitat, as expressed in, among other documents, the Great Lakes Water Quality Agreement. The Agreement requires that Remedial Action Plans and Lakewide Management Plans take an ecosystem approach to restoring and protecting beneficial uses, including healthy fish and wildlife habitat. It also calls for the identification, preservation, and rehabilitation of significant wetlands.

The World Conservation Strategy (International Union for the Conservation of Native and Natural Resources [IUCN] 1980), which has been endorsed by the Canadian government, has three main objectives for living resource conservation:

- to maintain essential ecological processes and life-support systems on which human survival and development depend;
- to preserve genetic diversity;
- to ensure the sustainable utilization of species and ecosystems.

The responsibility to protect natural areas and wildlife in urban settings should clearly be part of a conservation strategy for Ontario. This was recognized in a 1986 assessment of conservation and development in Ontario undertaken by the Conservation Council of Ontario and titled "Towards a Conservation Strategy for Ontario".

There has been a loss of natural habitat and wildlife populations from the Toronto waterfront since colonial times. Today, much of the remaining natural environment is under stress because of degradation of water quality, fragmentation of habitat areas, introduction of non-native species, and general disturbance. There is a growing awareness of the

importance of protecting natural areas, and an array of designations and protective policies exists at different levels of government. In practice, however, wildlife and their habitats are vulnerable to a wide range of impacts.

Environmental Change

The stresses that have impoverished most of the Toronto waterfront of natural habitat and wildlife began with the colonization of the Toronto area by Europeans who fished in its rivers and bays, cleared it of watershed forests, constructed mill dams, and discharged sawdust, bark, and untreated sewage into the lake, rivers, and streams (Waterfront Remedial Action Plan [WRAP], 1987). As the City developed, there were (and still are) major alterations of the original shoreline through lakefilling. For example, the 405-hectare (1,000-acre) Ashbridge's Bay Marsh was filled to create the Port Industrial Area. In other areas, the original natural vegetation has been replaced by residential development, railways, and formal parklands.

Urbanization of the watersheds has also resulted in major stresses: much of the land has been developed; the watercourses have been modified, channelized or piped underground; patterns of storm water drainage have been drastically altered; sediment loads of rivers have been increased, leading to deterioration of the wetland habitats where they are deposited; and a wide range of pollutants is discharged to the air and waters. As a consequence of these changes, there is a significant reduction in the extent, quality, and variety of wildlife habitats, a loss of plant and animal species diversity, and continual stresses from pollution on wildlife populations.

Impact on Wildlife

Studies of benthic (bottom-dwelling) invertebrates, caged clams, spottail shiners, sport fish, common tern chicks, and herring gull eggs show that aquatic wildlife along the Toronto waterfront ingest a variety of contaminants (see also Water Quality section in this Report; as well as City of Toronto Remedial Action Plan for the Toronto Waterfront, 1987; and the Metro Toronto Remedial Action Plan, Environmental Conditions and Problem Definition, 1988). While no studies have been conducted, it is probable that other organisms in

the food web (e.g., fish-eating waterfowl) are also contaminated. As the RAP report on environmental conditions and problem definition points out:

> The accumulation of contaminants in biota is a concern both because of the stresses that may occur at different trophic levels and as an indicator of the relative health of Toronto's aquatic environment.
> (RAP 1988, p. 104.)

The Maple District Fisheries Management Plan (Ministry of Natural Resources, 1987) emphasises that poor water quality (particularly high sediment loads and warm temperatures) is one of the primary limiting factors in the development of a diverse and healthy fishery in the Maple District. Given the continuation of present development practices, the ongoing urbanization of the Humber, Don, and Rouge watersheds will cause further degradation and losses of stream and wetland habitats.

The Canadian Wildlife Service designated the Toronto waterfront and neighbouring Lake Ontario shoreline from Hamilton Beach to Oshawa's Second Marsh as a critical area for waterfowl, which may use it during migration, breeding, or over-wintering (*Waterfowl Studies in Ontario: Occasional Paper No. 54*, nd). In addition to waterfowl, the waterfront is particularly important to numerous other species of migrating birds, many of which stop over at the lakeshore before or after crossing Lake Ontario. Others fly around the lake, following the shoreline, and also depend on waterfront areas for resting and feeding. In addition to this basic need for suitable habitat, significant numbers of passerines (song-birds) die during migration because they fly into downtown high-rise buildings. There is clearly an increased risk of these deaths as high-rise development occurs closer to the water's edge (University of Toronto Botany Conservation Group submission to the Royal Commission, November 1988).

Existing Natural Areas

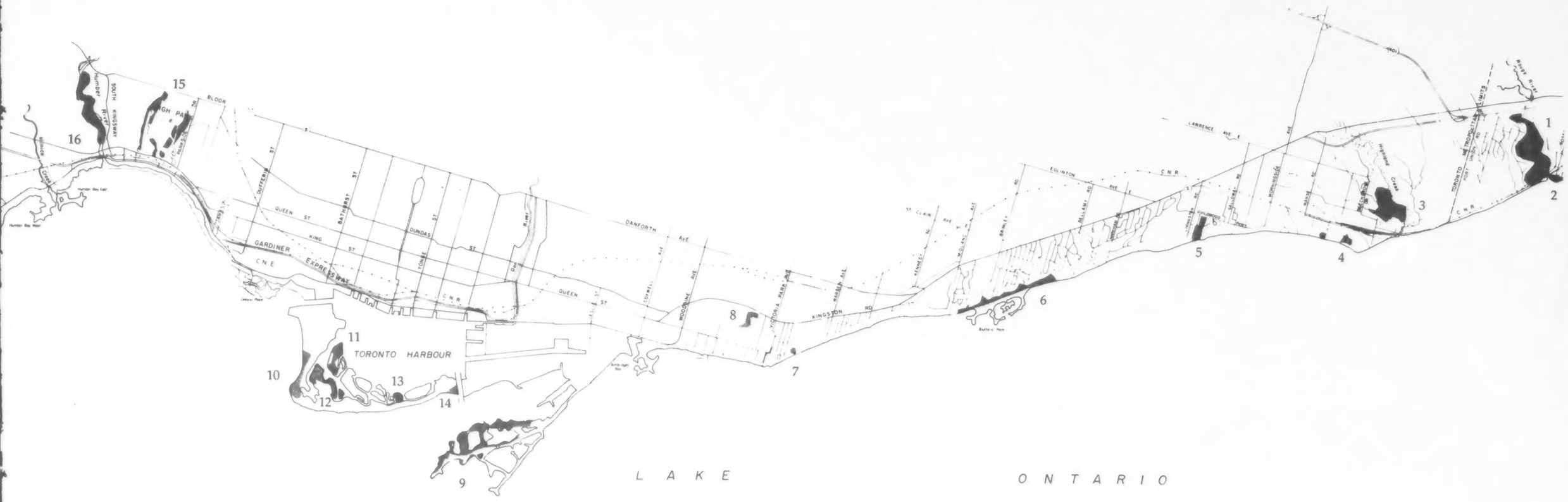
Despite all these impacts and losses of habitat, there is still a limited variety of natural habitats on the Toronto waterfront: rivers, streams, wetlands, embayments, near-shore waters, beach strands, wet meadows, lagoon edges, dunes, and valley-land forests. While most of these are fragmented remnants of

The Leslie Street Spit: a wilderness in the city.

Photo courtesy of Lee Gold

1. ROUGE MARSH AREA
2. ROUGE LAKESHORE SWALE
3. STEPHENSON'S SWAMP
4. EAST POINT
5. GUILD WOODS
6. SCARBOROUGH BLUFFS
7. FALLINGBROOK WOODS
8. GLEN STEWART RAVINE
9. EASTERN HEADLAND
10. HANLAN AREA
11. MUGG'S ISLAND
12. WILDLIFE SANCTUARY
13. SNAKE ISLAND
14. EAST WARD'S ISLAND
15. HIGH PARK AREA
16. HUMBER RIVER MARSHES

FROM THE METROPOLITAN TORONTO AND REGION CONSERVATION AUTHORITY: ENVIRONMENTALLY SIGNIFICANT AREAS STUDY 1982



FROM THE METROPOLITAN TORONTO AND REGION CONSERVATION AUTHORITY. ENVIRONMENTALLY SIGNIFICANT AREAS STUDY. 1982

NATURAL AREAS ALONG THE TORONTO WATERFRONT

the original ecological diversity of the region, there are a few places where human activities have led to the fortuitous development of natural habitats.

For example, the Leslie Street Spit, created by lakefilling, originally to provide new harbour and port facilities, and left unmanaged for two decades, has been transformed by the natural processes of colonization and succession into an urban wilderness of international fame (as evidenced by a book, several movies, and features in West German media and on Dutch television).

The best warm water habitats in the near-shore zone are found in the rivermouths, the Toronto Islands, and the embayments created by lakefilling projects. While the lakefill parks created by the MTRCA since 1970 have added to the structural diversity of the aquatic habitat of the waterfront, increasing the variety and abundance of near-shore cool and warm water fish species, it should be recognized that lakefilling programs have also created a number of problems, as described in a previous section of this Report.

The other key fish habitat areas include the rivermouths and upstream reaches. The Humber and the Rouge marshes provide important spawning and rearing areas for many species, and seasonal migrations of stocked salmon and trout occur in both rivers.

The natural areas along the Toronto waterfront are shown on the accompanying map. Several agencies have recognized the value of the most significant places with a variety of designations (see Table 2). In addition to these formally recognized areas, there are small patches of unmanaged vegetation on vacant lands, railway embankments, roadsides, ravine slopes, shorelines, etc., that do not warrant designation but nevertheless contribute to the overall matrix of wildlife habitat. These areas should be included in any assessment of environmental resources along the waterfront.

TABLE 2: Natural Area Designations

AREA	MTRCA ESA[1]	MNR WETLAND[2]	MNR ANSI[3]	TORONTO ERA[4]	SCARB. EIZ[5]	OWNER-SHIP[6]
1. Rouge Marsh Area	x	II	prov.		x	A,Pr
2. Rouge Lakeshore Swale	x		reg.		x	A,Pr
3. Stephenson's Swamp	x				x	A,M,L,Pr
4. East Point	x		reg.		x	A
5. Guild Woods	x					A
6. Scarborough Bluffs	x		prov.		x	A,M,Pr
7. Fallingbrook Woods	x				x	Pr
8. Glen Stewart Ravine	x					L
9. Eastern Headland	x			x		A
Toronto Is:						
10. Hanlan Area	x		reg.	x		M
11. Mugg's Island	x		reg.	x		M
12. Wildlife Sanct.	x		reg.	x		M
13. Snake Island	x		reg.	x		M
14. E. Ward's Is.	x		reg.	x		M
15. High Park Area	x		reg.			L
16. Humber River Marshes	x	III				A,M,Pr

1. MTRCA: Environmentally Significant Areas (from ESA Study, 1982).
2. MNR: The Rouge Marshes are classified as provincially significant (Class II) and the Humber Marshes as regionally significant (Class III), by the Evaluation System for Wetlands of Ontario, which includes seven classes.
3. MNR: Areas of Natural and Scientific Interest (ANSI). prov. = of provincial significance, reg. = of regional significance.
4. City of Toronto: Central Waterfront Plan, designated Environmental Resource Areas.
5. City of Scarborough: Environmental Impact Zone (IEZ).
6. OWNERSHIP:
   A — Metropolitan Toronto and Region Conservation Authority
   M — Metropolitan Toronto (Parks and Property or Works Department)
   L —Local Municipality
   Pr —Private

N.B. See text for explanation of designations.

Values

As the map titled "Natural Areas along the Toronto Waterfront" shows, there are few such sites remaining, and those that exist are located in the central and eastern stretches. Apart from the aquatic habitats associated with the near-shore zone, there are no significant natural areas along the Etobicoke waterfront. Natural areas represent a small part of a spectrum of different kinds of open spaces, ranging from the quayside walkway at Harbourfront to the formal parklands of the western beaches to the remnant wetlands of the Rouge Marshes. It is this diversity that makes the waterfront an exciting place and provides opportunities for a variety of recreation activities and experiences.

The natural areas are particularly valuable for such informal activities as birding, photography, walking, jogging, nature study, fishing, picnicking, and the like — basic recreational pleasures that require no expensive equipment or facilities. They are an especially rich environment for children, where they can see, touch, and hear nature in all its variety, and enjoy adventures stimulated by an unstructured and complex environment.

Natural areas are appreciated by many residents and visitors to Metropolitan Toronto seeking respite from the built environment. For some, contacts with wildlife, open sky, and water are essentials of their well-being:

> ... there is a beauty, a fulfillment to be gained by experiencing nature which cannot be explained. The land has a soul, a spirit, and mankind is part of it. Humans evolved in a natural world, and they automatically return to it for 're-creation' as if the strings of our evolution somehow still exert an influence over us.
>
> (Hilts, Kirk and Reid (eds), *Islands of Green: Natural Heritage Protection in Ontario*. 1986, p. 24.)

Natural areas exist in many forms, from a humble patch of cattails in a depression adjacent to Lakeshore Boulevard, to the provincially significant Rouge River Valley. While all these forms of nature are a valuable part of the urban landscape, the larger, wilder places have a special worth that is sometimes recognized by the term "urban wilderness". Recognizing that there can be no *true* wilderness in a city, we consider that urban wilderness implies extensive, self-perpetuating areas

East Point Park: there are still a few places along the Toronto waterfront that offer the special away-from-it-all experience of open sky, water, and wildlife.

Photo courtesy of the Toronto Field Naturalists

where natural processes dominate, and where public access, without cars, provides for low-key, unorganized recreation and contacts with wildlife.

With the rapid urbanization of Metro Toronto and surrounding regions and the resultant continual losses and degradation of natural heritage, the remaining natural areas along the waterfront and in the valleys are becoming increasingly valuable. Growing public awareness of the environment contributes to a shift in interest towards more natural types of open space, and we can expect that in the future, there will be increasing demands to experience nature, both in everyday neighbourhood settings and in special urban wilderness areas.

As the World Conservation Strategy (IUCN, 1980) reminded us, "we have not inherited the earth from our parents, we have borrowed it from our children". Once destroyed, natural habitats cannot be replaced in their original form: we must safeguard the remnants that exist and ensure that we leave future generations with options.

The objectives of sustainable development can be met only with the support of the general population. Many urban children are alienated from nature in their daily lives; they cannot be expected to grow up with any understanding of natural processes. While schoolboards are placing increasing emphasis on environmental education in the curriculum, outdoor experiences are typically based on bus trips to conservation study centres *outside* the city. There are opportunities to make better use of local natural areas in the valleys and waterfront of the metropolitan area.

The conservation of natural habitats also confers many environmental benefits: wetlands trap pollutants, wooded areas retard storm run-off, and streambank vegetation shades watercourses. Waterfront habitats are particularly valuable for many species of wildlife, including migrating birds, wintering waterfowl, and fish.

Conservation

The first efforts to document Environmentally Significant Areas (ESAs) in Metro Toronto were undertaken in 1976 by the Toronto Field Naturalists (*Toronto the Green*, 1976) and by members of the University of Toronto Botany Conservation Group (Varga, 1980, and Riley, 1980). In 1982, the MTRCA

published its study of ESAs, which it defined as "land or water areas containing natural features or ecological functions of such significance as to warrant their protection or preservation".

The MTRCA's objective is to protect ESAs on Authority-owned lands by managing them appropriately, and to undertake environmental reviews for all proposed MTRCA works that may have an impact on ESAs. Because most of the ESAs in Metro Toronto are managed for the MTRCA by the Metropolitan Toronto Parks and Property Department, protection depends on co-operation between these two agencies . The MTRCA encourages protection of ESAs owned by private landowners or local municipalities by providing information and management advice. In addition, many ESAs in the valleys and along the waterfront come within the MTRCA's Fill Line Regulations, which control filling, construction, and alterations to waterways undertaken in order to reduce erosion and flood hazards.

While ESA designations have encouraged greater awareness of the need for protection of natural areas, and been the basis for similar designations by area municipalities, it must be recognized that these designations do not carry any legislative protection. In addition, ESAs are vulnerable to damage from adjacent land uses, upstream activities, and management practices in the parklands themselves.

As Table 2 shows, ESAs are owned by a variety of public agencies and private landowners. The management of these areas is further complicated by agreements between the agencies: for example, with the exception of the Leslie Street Spit, all the ESAs on the waterfront on lands owned by the MTRCA are managed by the Metro Parks and Property Department. The Metropolitan Toronto Works Department is also involved in management in such places as the Water Pollution Control Plant adjacent to the Humber River Marshes; the filtration plant at the Wildlife Sanctuary on the Toronto Islands; and generally in those places where trails are being developed or drainage works being undertaken. The privately owned portions of ESAs are susceptible to harm from such activities as residential development, dumping of garden wastes, mowing, or planting.

The Metropolitan Official Plan includes a "Valley Land Impact Zone" which applies to the following ESAs: Rouge Marshes, Rouge Rivermouth Beach, and the Humber Marshes. While the intention of the zone identification is primarily to restrict development in valleys which would pose a hazard to life or property from flooding, unstable soils or erosion, it is also used to provide for the "maintenance of natural and environmentally sensitive areas of a valley as a public resource".[18]

The Metropolitan Official Plan waterfront policies oppose development in areas identified by the Ministry of Natural Resources as hazard lands. The Official Plan policy states that construction, remedial works, building, placing of fill, or excavating will not be allowed unless such activities are not going to have any unreasonable adverse environmental effects. Clearly, the definition of "unreasonable effects" requires interpretation.

The Parks and Open Space Study for the Metropolitan Plan Review recommends several changes that would strengthen protection of natural areas. They include replacing the Valley Land Impact Zone with an Environmental Impact Zone that would encompass both the valleys and the waterfront. It also recommends that the Plan contain specific references to the Environmentally Significant Areas designated by the MTRCA, in order to provide clearer policy direction to protect these special areas.

The cities of Scarborough, Toronto, and Etobicoke have Official Plan policies for valleylands that parallel those of Metro. The Environmental Impact Zone in the City of Scarborough plan includes all the ESAs identified by the MTRCA, with the exception of the Guild Woods, which are designated highway/commercial in the Official Plan. The implementation of a provincial Flood Plain Policy announced by the ministries of Municipal Affairs and Natural Resources in August 1988 may require revisions of existing policies on valleylands, Environmental Impact Zones, and ravines (see also Section 6 on Jurisdictions).

The City of Toronto's proposed Central Waterfront Plan (amendment 463 to the Official Plan) designates six Environmental Resource Areas (ERAs), which are to be

18. An environmentally sensitive area is one that is easily damaged or disturbed as a result of human activities; this is only one of many criteria used in identifying environmentally *significant* areas.

maintained and managed for conservation, public enjoyment, and compatible recreation uses, through co-operation with the landowners. The five areas the Plan identifies on the Toronto Islands as ESAs are very similar to those delineated by the MTRCA. However, the Plan's ERA on the Leslie Street Spit covers a larger area than that defined as an ESA by the MTRCA.

While these Official Plan designations and policies recognize the importance of protecting natural features and processes, they need more stringent designations and/or supportive zoning to be fully effective. As the Metropolitan Plan Review (1988) notes: the "zoning policies generally do not fully reflect either Metropolitan or area municipal Official Plan policies regarding valleylands. Even where valleylands are zoned 'greenbelt' or 'open space', certain permitted land uses contravene the intent of the Metropolitan valleyland policy" (p. 98).

The City of Toronto is attempting to address this issue in the Central Waterfront Plan by proposing a new zone to more precisely define allowable land uses for certain areas of open space. The proposed Gr zone would permit "conservation lands, botanic gardens, and bathing stations," and would be applied to the ESA on the Leslie Street Spit and to the waterlots in the Outer Harbour. (Zoning the waterlots is intended to control land uses on areas that may be created by lakefilling). While one can question whether botanic gardens should be included in a zone applied to ESAs, the concept of specific zoning to protect natural areas is a good idea and deserves support.

At the provincial level, there are several programs and policies to protect natural areas. A draft Wetlands Policy Statement (under Section 3 of the *Planning Act*) was announced by the ministers of Natural Resources and Municipal Affairs in October 1988. It proposes that all planning authorities in Ontario ensure that new land uses permitted on, or adjacent to, provincially significant (Class I and II) wetlands maintain or improve the wetland values as established by the Evaluation System for Wetlands of Ontario. This would apply to both public and private lands, and would be achieved through official plan designations as well as the use of a restrictive zoning category that permitted only wetlands and compatible land uses.

However, the ability of the draft Policy and accompanying Implementation Guidelines to effectively protect wetlands is restricted by several limitations, including:

1. Class III – VII wetlands are not directly protected by the Policy; they are to be identified and protected in a manner deemed appropriate by municipal authorities.
2. The Policy does not apply retroactively, so it will not affect lands already committed to other uses (e.g., through previously approved official plan designations or zoning by-laws).
3. The Policy addresses only land uses in and adjacent to wetlands; it does not cover potential adverse effects on wetlands from upstream land uses and activities.

Of the wetlands on the Toronto waterfront, the Rouge Marsh has a Class II designation andwill therefore be subject to the Wetlands Policy (excepting the CN lands at the mouth of the Rouge, which are under federal jurisdiction). However, the Humber River Marshes are designated regionally significant (Class III) and will not be protected directly, although they constitute a valuable wildlife refuge. There is potential for damage to the marshes as a result of the planned bridge reconstruction at the mouth of the river, in conjunction with improvements to the Queen Elizabeth Way.

Areas of Natural and Scientific Interest (ANSIs) identified by the Ontario Ministry of Natural Resources have no statutory protection. If they are located on land that is owned privately, the Ministry provides information about significant features and seeks the owner's co-operation in protecting the area (Maple District Land Use Guidelines, 1983).

Parts of the Rouge River Valley, including the Lower Rouge Marshes and the Rouge Rivermouth Beach, have been included in the designation of 38 "Critical Unprotected Natural Areas in the Carolinian Life Zone of Canada", undertaken by the Identification Sub-Committee of Carolinean Canada. These sites are to be protected through a variety of active programs, funded by a $3.6-million Carolinian Canada Fund created by World Wildlife Fund Canada, Wildlife Habitat Canada, the Nature Conservancy of Canada, the Ontario Heritage Foundation (Ministry of Culture and Communications), and the Ministry of Natural Resources.

The federal *Fisheries Act* protects fish and their habitat from habitat destruction/degradation and the discharge of deleterious substances; the Fish Habitat Provisions of the Act are administered in Ontario by the Ontario Ministry of Natural Resources and the federal Department of Fisheries and Oceans, under a Canada-Ontario Fisheries Agreement (1988). The federal Policy for the Management of Fish Habitat (Department of Fisheries and Oceans, 1986) is designed to achieve a net gain of fish habitat by conserving, restoring, and developing habitats. More specific arrangements to implement this policy will probably be included in a proposed Canada-Ontario Memorandum of Intent on the Management of Fish Habitat. At the regional level, the Maple District Fisheries Management Plan (MNR, 1987) includes strategies for meeting targets for fish production, harvesting, angler access, and public education, and improvement of both fishing opportunities and non-consumption uses.

The *Fisheries Act* includes general Pollution Prevention Provisions which could be applied to point-source (industrial or municipal) or non-point-source (urban run-off) discharges to the Toronto waterfront. While there are currently no specific regulations or guidelines on this matter, Fisheries and Oceans Canada and Environment Canada are currently drafting a Compliance and Enforcement Policy, which may ultimately be implemented by the Province.

Issues

1. There are few natural areas remaining along the Metro Toronto waterfront, particularly along the Etobicoke shoreline. Habitats for resident and migrating wildlife are becoming increasingly scarce and fragmented. The paucity of natural open spaces limits opportunities for people to enjoy informal recreational activities — walking, picnicking, birding, photography, jogging, nature study, or fishing — in a natural setting, or to benefit from the spiritual tonic that urban wilderness can provide as a respite from the built environment.
2. While in theory natural areas are protected by various designations and policies, in practice, they are vulnerable to damage from activities both within and without the significant areas. There are many examples of the degra-

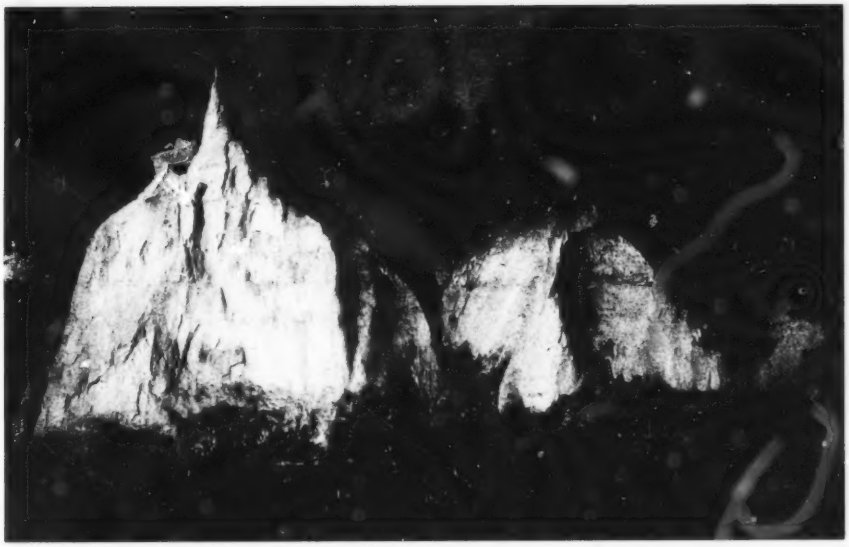
dation of Environmentally Significant Areas in Metro Toronto as a result of inappropriate management practices (e.g., mowing or herbicide applications), trail development, stream channelization, and the like.

More insidious, and harder to control, is the impact of surrounding land/water uses and watershed development on natural areas. For example, the shoreline marshes are extremely vulnerable to changes in the watersheds, especially with the rapid urbanization occurring north of Metro. What are the ecological implications of the development of the THC Marina in the Outer Harbour? What will be the long-term effects of shoreline stabilization and lakefill parks on the geologically significant cliffs of the Scarborough Bluffs?

3. Competing land uses are a source of conflict in some areas. This is likely to become an issue with the proposal to develop the Seaquarium in the Humber Bay Park East, which is the only open space along the Etobicoke waterfront with any natural values, and a popular location for a variety of activities — especially birdwatching, fishing, and walking — in a relatively wild setting.

Competing land uses are also the basis of the controversy over the future of the Leslie Street Spit. The MTRCA's master plan proposes that most of the Spit be managed to protect and enhance its natural habitat qualities, with some areas designated for an interpretive centre, car parks, and sailing clubs. The debate centres on whether the interpretive, sailing, and parking facilities should be located on the Spit itself, or at the base of the Spit (near Unwin Avenue) and on the north shore of the Outer Harbour. There are several environmental drawbacks to the plan:

- lakefilling and destruction of a designated Environmentally Significant Area would have to be undertaken to provide sailing club facilities and parking lots;
- car access would be provided along the neck of the Spit, which acts as an important transition and buffer zone from the industrial lands to the north.



The Scarborough Bluffs: an outstanding geological feature of provincial significance.

Photo courtesy of the Toronto Field Naturalists.

4. While the concept of Environmentally Significant Areas should be viewed as a key element in the conservation of remaining natural areas, it should be supplemented by other approaches in areas like the Leslie Street Spit, which are in a relatively early stage of development. The entire area of the Spit is in a state of flux, based on the processes of natural succession. Thus, specific areas of significance may vary in their importance over time, and areas that are insignificant now could develop valuable natural communities in the future. While one of the major values of the Spit is undoubtedly the presence of significant species, the fact that natural processes are able to unfold with minimal human intervention, as well as the wilderness quality of an extensive, unmanaged area, are, themselves, also worth safeguarding.

   These considerations suggest that the City of Toronto's concept of Environmental Resource Areas is a sensible approach to the dynamic nature and future potential of the entire Spit. Another area where a similar designation may be appropriate is at Humber Bay Park East, parts of which are relatively free of management, allowing natural processes to create an interesting and rich environment.

5. There is some debate about the amount of environmental manipulation that is necessary or appropriate on the Leslie Street Spit. There is merit in the initial goal of providing suitable substrates, and creating a diverse physical land form, topography, and shoreline configurations. However, because the Spit is the only large area along the waterfront where natural processes can operate freely, we should recognize the value of this living laboratory (not to mention the savings in landscape development costs), and avoid further environmental manipulation.

6. Many politicians, municipal staff, and members of the general public are unaware of changes to wildlife habitats and populations; typically, we don't appreciate what we have until it has already been lost or degraded.

Opportunities

1. Promote an ecosystem approach to conservation of natural areas and wildlife. This could be achieved by developing a conservation strategy for the Toronto waterfront, which should be applied at several levels:

   a) evaluation of an area in relation to other natural areas in the region;
   b) consideration of the conservation needs of the individual area;
   c) emphasis on natural features and processes throughout the planning and development processes.

   The value of any one natural area should be considered within the context not only of the Metro Toronto waterfront, but of the watersheds and of Lake Ontario. The increasing scarcity of wetlands and other natural communities along the Lake Ontario shoreline underscores the value of each remaining area. The importance of links that provide continuity of habitat between natural areas, particularly in relation to migration routes, should also be stressed. Rivermouth wetlands are used for spawning and rearing by fish species that may spend other stages of their life cycle in the rivers or the near-shore zone. All these considerations emphasize the vital importance of preserving every remaining patch of natural habitat, restoring other areas by allowing them to return to a natural state, and providing links between them, in order to form a network across the waterfront and up the valleys.

   To conserve an individual natural area, it is essential to consider not only the environmental conditions of that site, but also prevention or remediation of problems originating elsewhere. For example, prohibiting infill of a wetland will not protect fish spawning areas if development upstream causes major silt depositions in the spawning habitat.

   In addition to giving special attention to designated Environmentally Significant Areas (ESAs), we need to place greater emphasis on protecting natural habitat, wildlife species, and ecological processes when we plan or develop areas. For example in the Toronto waterfront,

The rivermouth marshes are vulnerable to degradation caused by activities in the watersheds (seen here are the Rouge Marshes).

Photo courtesy of Sally Gibson

some issues that should be considered include the effects of lakefilling on aquatic life, storm water discharges on water quality, or high-rise buildings on migrating birds.

The City of Toronto is developing a set of environmental policies for the 1991 Official Plan, presenting an opportunity to develop policies for the protection of wildlife habitats and species. The Metropolitan Plan Review is considering formulation of an urban conservation strategy for Metropolitan Toronto: this would be a valuable approach to integrating environmental protection into urban activities.

2. Strengthen the protection of ESAs by use of appropriate zoning regulations. The City of Toronto's proposed Gr zoning (permitting "conservation lands, bathing stations and botanic gardens") is a step in the direction of providing more specific land use controls within open spaces.

3. Prepare management statements or plans for ESAs. These should be undertaken co-operatively by the different agencies that have ownership and management responsibilities, as well as by private landowners. If a site has been designated under a provincial program — for example as an Area of Natural and Scientific Interest, a provincially or regionally significant wetland or a Carolinian Canada site — the designating agency should also be involved in management planning. An advisory committee (such as the natural area advisory committee set up by the MTRCA to advise on management approaches to the Leslie Street Spit) may be a useful mechanism for co-ordinating preparation of a management statement, as well as incorporating public input.

4. Recognize and protect the Leslie Street Spit as an urban wilderness. The area is a unique component in the mosaic of open spaces along the Toronto waterfront. With increasing public environmental awareness on one hand, and a dwindling supply of natural areas on the other, it is becoming ever more crucial to provide Metro's residents with opportunities for unstructured, spontaneous, low-cost recreation in a car-free environment where natural processes, rather than human intervention, prevail.

The MTRCA's goal for the waterfront is "to create a handsome waterfront, balanced in its land uses"; urban wilderness should be included as one of these uses.

While there is a wide variety of outdoor recreational opportunities on the Toronto waterfront, they are not all represented in a balanced way. For example, while there are existing or proposed marinas on all six of MTRCA's current or planned lakefill parks along the Toronto waterfront, the only place where people can experience the away-from-it-all feeling of an urban wilderness is the Leslie Street Spit.

Nonetheless, the current master plan for Tommy Thompson Park will diminish the wilderness values of the area by providing car access, an interpretive centre, car parks, and sailing club facilities. There is still an opportunity, through the Ontario Environmental Assessment Program, to explore alternative locations for most of these facilities so that the Spit can truly realize its potential as a unique urban wilderness, a special place for nature at the interface between the city and the lake.

5. Promote "naturalization" of portions of existing and future open space. The objective of naturalization is to re-create self-sustaining, low-maintenance natural communities by integrating principles and techniques of ecology, forestry, wildlife management, and horticulture. The intention is not to replace the more formal, horticultural parklands, but to supplement them with woods, wetlands, and meadows, thus adding further variety and natural values to the open space system.

   The concept of naturalization in the waterfront setting also makes ecological sense: because the horticultural approach to maintaining lawns and flowerbeds necessitates the use of pesticides and fertilizers, the closer these are to the lake, the greater the likelihood of polluted runoff to the water.

   Several municipalities are considering naturalization as a key component of park management: the City of North York has been a pioneer in this field, and the cities of Scarborough and Toronto are also starting to consider naturalization as a beneficial, and cost-effective, management approach.

   Among the parks along the Toronto waterfront, parts of Humber Bay Park have been allowed to naturalize. Other such regional parks as Marie Curtis, Colonel Samuel

Smith, the Toronto Islands, Ashbridge's Bay, and Bluffer's, are especially suitable locations for naturalization, because of their size and their emphasis on passive recreation. The extensive parklands along the western beaches would be enhanced by replacing some areas of mown grass with natural communities. There are also many opportunities to create wildlife habitat in corners or along the edges of smaller open spaces.

Continuous open space linkages for cycling, jogging, and walking can be used to provide belts of vegetation linking major open spaces along the waterfront and up the valleys. In particular, there are possibilities for restoring the linkage between the Don Valley and the waterfront, using open spaces related to the St. Lawrence Square development; and connecting the Leslie Street Spit with Ashbridge's Bay Park by expanding the Main Water Pollution Control Plant. In Etobicoke, the motel strip redevelopment offers an opportunity to provide habitat connections between the Humber Marshes and Humber Bay Park.

6. Restore beneficial uses of the waterfront, including wildlife habitat, using the Remedial Action Plan. The purpose of the Policy for the Management of Fish Habitat (the Federal Department of Fisheries and Oceans, 1986) is to achieve a net gain of productive capacity for fisheries through programs to conserve, restore, and create fish habitat. In the Toronto area, this can be achieved by designating specific areas for such programs through the RAP.

7. Encourage public awareness, education, and environmental rehabilitation projects in order to increase appreciation, understanding, and enjoyment of natural areas and wildlife and to provide opportunities for people to become involved in habitat improvement projects. This requires involvement of both government and non-government organizations. There are a number of groups involved in various aspects of such programs already, focusing both on the waterfront specifically, and on Metro Toronto in general.[19]

19. See Appendix 3 for a list of non-government organizations that sent submissions to the Environment and Health Work Group of the Royal Commission; many of these are involved in public education and environmental rehabilitation.

5. Public Involvement: "What Can I Do?"

Background and Current Situation

The public is involved in the waterfront in a variety of ways: increasing numbers of people live, work, and play near or on the water. The interest in the waterfront as a special resource for Metropolitan Toronto, combined with growing concern for environmental quality, has focussed specific attention on the waterfront environment. A number of non-government organizations have formed as a result of this concern for the Great Lakes in general, and the Toronto waterfront in particular. They include the Centre for the Great Lakes, Citizens for a Quiet Beach, Great Lakes Tomorrow, Great Lakes United, Friends of the Spit, Public Focus, and Stop Contaminating Our Waterfront. These and other public interest organizations have frequently taken a pioneering role in initiating environmental programs, acting as a stimulus for government action.

Using public involvement to gain citizen input into decision-making has become a generally accepted part of planning and environmental assessment processes, and is included in legislation governing these activities. However, the specific form and outcome of public involvement programs are still the subject of considerable debate.

In the context of the Toronto waterfront, public involvement in decision-making is applicable to:

- the Remedial Action Plan;
- environmental assessments carried out under the *Ontario Environmental Assessment Act* and the federal Environmental Assessment and Review Process;
- plans for specific projects of the MTRCA;
- municipal processes, such as revisions of official plans of Metro and the area municipalities, and rezoning.

Values of Public Involvement

Public involvement has two broad, interrelated aspects: information and education; and participation in decision-making processes. Together, these may contribute directly and indirectly to improved environmental conservation and management, and to empowerment of individuals. Empowerment — the ability of people to use information and power to make

choices — is widely recognized as an important factor in promoting good health (see *Healthy Toronto 2000; A Strategy for a Healthier City*, Board of Health, City of Toronto, 1988).

The importance of public information and education was emphasized by the National Task Force on Environment and Economy :

> The support of the Canadian public is an essential part of environment-economy integration. A high level of public awareness and concern over the deterioration of environmental quality exists; however, public recognition of what has already been achieved and of what remains to be done must be promoted.
>
> (*Report of the National Task Force on Environment and Economy*, 1987, p. 16.)

The flow of public information may stop at this point, having gone in only one direction, or it may be used in a two-way process that leads to consensus and decision-making.

Commenting on the role of public participation in decision-making, the report of a federal Study Group on Environmental Assessment Hearing Procedures pointed out that public involvement:

> ...is not a privilege granted to the population, but in fact a service requested of the public by the government to help it make an informed decision and to favour a harmonious relationship between economic development and environmental protection .
>
> (*Public Review: Neither Judicial, Nor Political, but an Essential Forum for the Future of the Environment*, 1988.)

Thus, public involvement may be undertaken in order to provide decision-makers with more complete information about public values, goals, and perceptions of issues, which should lead to improved plans, policies, budgets, etc. Related to this is the support for political decisions, regulations, budgetary commitments, etc. gained when a constituency is well-informed and has been involved directly in the decision-making process. Further, if people are aware of the nature and reasons for regulations (e.g., sewer-use by-laws), they are more likely to comply with them, and to keep their eyes open for violations.

Information that helps people make life-style changes can both help to reduce environmental problems and contribute to empowerment, as people begin to feel that they can make a difference. For example, they may become involved in waste reduction and recycling, more careful disposal of toxic chemicals, organic gardening, and other projects. Active programs to improve the environment, such as tree planting, garbage clear.-up, or stream rehabilitation are also very valuable in focussing community resources to bring about tangible benefits. Such efforts may be undertaken by school classes, Scouts, Guides, local environmental groups (e.g., the Black Creek Group, Save the Rouge Valley System), etc.

Remedial Action Planning

The Great Lakes Water Quality Agreement requires that the public be consulted in all aspects of remedial action planning, and Public Involvement Guidelines for RAPs have been developed under the Canada-Ontario Agreement Respecting Great Lakes Water Quality. These guidelines describe the goals of public involvement in RAPs as being:

- to stimulate public interest in and awareness of local water quality issues;
- to obtain the public's assistance in defining water quality problems and beneficial uses to be restored;
- to obtain public input and involvement in the development of RAPs; and
- to provide broad community support for RAP implementation.

In September 1985, a group of citizens, impatient with the lack of federal/provincial progress on a Remedial Action Plan for the Toronto waterfront, initiated their own program with City of Toronto funding. The Toronto Waterfront Remedial Action Plan (WRAP) Committee, consisting of representatives from the Canadian Environmental Law Association, Great Lakes United, Pollution Probe, Stop Contaminating Our Waterfront, Toronto Islands Residents' Association, Botany Conservation Group of the University of Toronto, and Friends of the Spit, held public meetings as part of the process. In March 1987, the WRAP was submitted to Toronto City Council, and many of its recommendations were adopted.

In June 1986, a federal-provincial Toronto RAP team, composed of representatives of Environment Canada, the Ontario ministries of the Environment and Natural Resources, and the Metropolitan Toronto and Region Conservation Authority, was established. To date, a *Report on Environmental Conditions and Problem Definition* has been completed, and in October 1988 the first public workshop was held to discuss goals for use of the waterfront, based on those developed by the WRAP. A Public Advisory Committee is currently being established to provide advice to the Remedial Action Plan team on key aspects of the RAP preparation and implementation.

Federal Environmental Assessment and Review Process (EARP)

At present, the EARP requires only limited public consultation. Thus, in an initial assessment, "... the public must have access to the initial assessment decision and related information and the opportunity to respond to a proposal before implementation".

Public consultation *may* be used during the scoping process or subsequent planning stages, especially for controversial projects about which there is a high level of public concern. In fact, the presence of such concern is one of the criteria for determining whether or not a proposal should be referred to the Minister of the Environment for public review, although there is no established process for assessing the level of public concern.

In the context of the Toronto waterfront, several major landowners — the Toronto Harbour Commissioners, Harbourfront Corporation, and CN Rail — are not subject at present to the EARP. In response to concern about the impact of the Outer Harbour Marina, the THC voluntarily undertook an initial assessment under the EARP. However, there have been serious criticisms of the adequacy of both the document itself and the public involvement provided during this process.

The EARP is based on an Order-in-Council and not on legislation, although there is a political commitment to legislate the process. This presents an opportunity to strengthen the requirements for public involvement, and to ensure that all similar projects undergo environmental assessment, regardless of who the proponent is.

Ontario Environmental Assessment Act (EAA)

The Act has stronger provisions for public involvement than the EARP, requiring the proponent to advise the public prior to submission of an EA about the nature of the proposed project, as well as where and how the public may participate in the process; the EA document and reviews are subsequently made available to the public for 30 days to comment and/or to request a hearing. While MOE has published *Guidelines on Pre-Submission Consultation in the EA Process* (November 1987), there is no legislated requirement for public involvement during the planning process.

A review of the EAA, known as EAPIP (Environmental Assessment Program Improvement Project), is currently being conducted by the Ministry of the Environment. The need to evaluate the role and effectiveness of public involvement in environmental assessment is demonstrated by the fact that it is one of five themes being studied as part of EAPIP. Matters being reviewed include:

- the extent, type, and timing of public consultation by proponents of undertakings;
- the use of appropriate methods for communicating information and decision-making.

In addition, an EAPIP regional public consultation program conducted during the summer of 1988 found that public participation was an important component of a number of other topics, and was raised throughout the course of the meetings. Some specific issues concerning public involvement were highlighted, including:

- informing the public about the purposes and processes of environmental assessment and opportunities for the public to participate in the process;
- the use of mediation and arbitration practices in issue resolution;
- a better understanding of the use and application of public notification;
- public participation in a quasi-judicial hearing process.

Examples of the application of the *Environmental Assessment Act* on the Toronto waterfront include the Colonel Samuel Smith Park (1980), the Keating Channel (1983, with an addendum of 1984), Tommy Thompson Park, and the Ashbridge's Bay Water Pollution Control Plant (WPCP) expansion.

The EA document for Tommy Thompson Park is to be released by the MTRCA this spring. The Ashbridge's Bay WPCP Expansion Proposal (see also the section on Lakefilling earlier in this Report) is currently being developed under the class environmental assessment for water and sewage works. The class process requires some public involvement in reviewing the Engineering Study Report. In addition, the public may request that an individual assessment be undertaken if significant environmental effects and public concerns are evident.

The public hearings held in 1980 for the MTRCA's Master Plan of the Colonel Samuel Smith Waterfront Area were the first by the Environmental Assessment Board under *Ontario's Environmental Assessment Act* of 1975. A study of the public involvement in this process was undertaken by the National Survival Institute (Wyman et al.,1980). It concluded that, although the public was provided with reasonable access to the decision-making process, a real commitment to public participation involves more. Specific issues included:

1. the need for a better understanding of who "the public" is;
2. the need for better outreach in order to involve the public more effectively.

In some cases, the public may have a role in helping to decide whether or not an EA should be undertaken. For example, in November 1988 the Environmental Assessment Advisory Committee (composed of appointed individuals) held a public meeting in order to consider the need for an environmental assessment of the proposed Etobicoke motel strip redevelopment. The Committee has made a recommendation to assist the provincial Minister of the Environment in making a decision.

Metropolitan Toronto and Region Conservation Authority

In addition to projects subject to the *Ontario Environmental Assessment Act*, the MTRCA has recently involved the public in major plans for conservation areas (e.g., Tommy Thompson Park), and other special projects (e.g., the Rouge River Urban Drainage Study). The public involvement program for the Tommy Thompson Park Master Plan included public meetings, a questionnaire, a workshop, and several advisory committees. However, there have been criticisms from some participants about the way the program was conducted.

Some concern has also been expressed that the MTRCA is not fully accountable to the public, because its members are not directly elected. There are 31 members, 14 of whom are appointed by Metro Toronto, three by the Province, and 14 by the regional municipalities of Peel, York, and Durham. While many of the appointees are elected officials in their own regions, as members of the Authority they are not necessarily accountable to the body that appointed them. All meetings of the Authority are open to the public, agendas are available on request, and anyone may ask to be allowed to make a deputation. However, it appears that many members of the public are not aware of the operating process of the MTRCA.

The MTRCA has a conservation education program focussing on the role of the Authority in resource management. It could also be used to explain how the Authority operates and how citizens can become involved. Another potential opportunity for public comment on MTRCA activities is at the meetings of Metro Toronto, Peel, York, or Durham councils, when decisions are made regarding the approval of MTRCA project proposals.

Ontario Planning Act and Municipal Act

Under provisions of the *Municipal Act*, municipal councils are required generally to conduct business in meetings open to the public and structured so that councils, and/or their committees, can hear public deputations. The *Planning Act* provides a more detailed process for public participation in commenting on official plan development, official plan amendments, and zoning by-laws and amendments. In addition, through the planning processes of individual municipalities, the public is frequently able to comment on proposed subdivisions and site plan control by-laws.

When appeals are taken to the Ontario Municipal Board, members of the public may present their position. However, the testimony of the general public does not always carry as much weight as that of expert witnesses. Members of the public and citizen organizations may hire expert witnesses, but frequently cannot afford to do so.

Issues

1. There is a lack of consistency in the application, degree, and types of public involvement for similar projects being undertaken by different landowners under the requirements of federal or provincial legislation. The main reason for this is the relative weakness of the federal EARP in comparison with the Ontario EAA. The EARP has limited requirements for public involvement, and excludes several key landowners — the Harbourfront Corporation, the Toronto Harbour Commissioners, and CN Rail.
2. Differing expectations of the purpose and value of public involvement create dissatisfaction. On the one hand, we heard the opinion that "public involvement is treated like a religion, but often it's worthless", and, on the other, one non-government organization felt that, with regard to planning for Tommy Thompson Park, "the MTRCA had poorly run a token public participation process". Thus public involvement is all too often undertaken in the context of a polarity of views, ranging from "public input is a necessary evil" to "the public should have a direct role in making decisions". Greater satisfaction would be attained if:

   a) all parties were truly committed to the process and agreed on the benefits to be gained; and

   b) the role of the public in a given program were clearly understood (e.g., is the purpose to educate the public? to clarify issues? present values? provide advice? negotiate? make decisions?).

3. There are frequently differing perceptions of the adequacy of public consultation programs. While the agencies or departments undertaking public involvement often feel that they are providing more than adequate opportunities, the participants are frequently less satisfied. Some of the issues that commonly arise:
   - the form of notification/publicity;
   - definition of "the public" (i.e., both the general public and special interest groups) to ensure adequate representation;
   - timing of public involvement in the planning process;
   - meeting times and schedules;
   - the adequacy of information provided;
   - whether there are adequate mechanisms for resolving conflicts;
   - whether public input is genuinely incorporated into the decision-making process; and
   - whether the techniques used (hearings, workshops, committees, open houses, surveys, etc.) provide for effective, meaningful involvement.
4. There is widespread public mistrust of government information, programs, and intentions. Many people have strong fears about the deterioration of environmental quality, and feel powerless to change the status quo. There is considerable disillusionment with government response to environmental issues: "it's always too little, too late" (for example, dissatisfaction with the slow progress of the RAP).
5. Citizens and special interest groups frequently lack adequate resources for effective involvement in all the issues they are being asked to address. Public involvement typically relies on non-government organizations to provide participants, time, and expertise — all of which are usually in short supply. Intervenor funding is currently available to provide seed money to assist participants in environmental assessment hearings under the Ontario EAA, and

proposed legislation would make the provision of intervenor funding by the proponent of a project mandatory (unless the proponent cannot afford it). However, funding is not usually provided to participants in other forms of public involvement.

Opportunities

1. Reinforce the Toronto Remedial Action Plan Process: the geographic scope and time frame of the RAP and the Royal Commission are almost identical. The adequacy of public involvement in the RAP is likely to be a crucial determinant in achieving its objectives. As a participant in the RAP Co-ordinators' Forum of November 1987 said, "The RAPs will die unless the public pushes for them to be implemented. The public must have a sense of ownership over the plans, since this will lead them to believe in the plans and to create the political will to ensure that resources are made available to implement them" (J. Jackson, "The Citizens' Perspective on Public Participation in RAPs", 1988).

   There is an opportunity for the Royal Commission to encourage the RAP and perhaps to work in concert with the RAP team so that public involvement efforts are co-ordinated, effective, and mutually reinforcing.

2. Strengthen the federal Environmental Assessment and Review Process through legislation. This should help to resolve the issue of consistency among levels of government and to improve the requirements for public involvement. The Toronto Harbour Commissioners, Harbourfront Corporation, and CN Rail should all be required to follow the EARP. There is also an opportunity to provide for consolidated hearings in cases of joint federal-provincial jurisdiction.

3. Improve public involvement in the Ontario Environmental Assessment Process through the Environmental Assessment Program Improvement Project (EAPIP). From the preliminary reviews undertaken to date, it is clear that public involvement is an area of concern to all parties involved. EAPIP provides an opportunity to redefine the

role of the public in environmental assessment, and to establish guidelines for more effective and meaningful public participation.

4. Investigate ways of improving public knowledge about environmental issues, programs in progress, possible lifestyle changes, etc. This will assist people to respond to requests for involvement, build trust for government programs, reduce misperceptions about environmental issues, help politicians make well-informed decisions, and contribute to empowerment. Government agencies should be encouraged to seek more effective ways of communicating with the public, and the valuable educational role of non-government organizations should be recognized and supported.

   An example of a project that is both educational and participatory is the Lake Ontario Organizing Network (LOON), which is an outreach program of Pollution Probe, Great Lakes United, and other environmental groups. LOON held a "Save the Waves Campaign" during the summer of 1988. The campaign visited 33 communities in the U.S. and Canada with the objectives of reaching as many people as possible with the message that Lake Ontario is in trouble; gaining better understanding of how citizens view the problems; building a network of concerned groups and individuals; and mobilizing public support to restore Lake Ontario.

   There is an opportunity to use more creative means of both reaching out and informing the public (TV, radio, billboards, flyers, activities and books for children, posters, etc.). The great demand for programs offered at Harbourfront, including the School by the Waterfront and the Children's Environmental Festival, shows what can be done to expand this type of educational experience. Public involvement in programs that contribute directly to environmental conservation (recycling, tree planting, stream rehabilitation) should also be encouraged.

6. Jurisdictions: "Who's in Charge Here?"

Background and Current Situation

No single agency of government or the private sector co-ordinates management or development of the Toronto waterfront, and no comprehensive plan serves as a common reference point for decision-makers. Instead, there are many agencies and levels of government with various jurisdictional responsibilities, operating to reach different goals.

Environmental processes transcend jurisdictional boundaries, so that sound environmental management must be based on co-operation between neighbours, in the watersheds as well as along the waterfront itself. However, in the absence of a shared vision for the future of the Toronto waterfront, and without co-operative arrangements to implement such a vision, it is difficult to achieve an ecosystem approach to the planning, development or management of this area.

The Actors

In the Toronto waterfront, the principal actors are the governments of Canada, Ontario, Metropolitan Toronto, and the cities of Toronto, Etobicoke, and Scarborough. The key departments and agencies with responsibilities that may affect the environment and health include:

Canada: CN Rail, Harbourfront Corporation, Environment Canada, Fisheries and Oceans Canada, Public Works Canada, Toronto Harbour Commissioners, Transport Canada.

Ontario: ministries of Culture and Communications;the Environment; Government Services; Health; Industry, Trade, and Technology; Municipal Affairs; Natural Resources; Tourism and Recreation; Transportation; and the Metropolitan Toronto and Region Conservation Authority.

Municipality of Metropolitan Toronto: departments of Community and Social Services; Parks and Property; Planning; Roads and Traffic; and Works.

Etobicoke, Scarborough, and Toronto: departments of Parks and Recreation; Planning; Public Health; and Public Works.

In addition, other arms of government play a role that may affect the environment and/or health, depending on the circumstances. These include: Metro and City housing agencies, hydro-electric commissions, the Toronto Transit Commission, Ontario Place, and the Board of Governors of the Canadian National Exhibition.

The Legislation

The key pieces of legislation now in effect include:

Federal: *Canada Shipping Act, Canadian Environmental Protection Act, Government Organization Act* (the Environmental Assessment and Review Process is a guideline order made under this Act), *Fisheries Act, Fishing and Recreational Harbours Act, Navigable Waters Act, Public Works Act,* and *Toronto Harbour Commissioners' Act*. The federal government has also entered into certain agreements with the U.S. that are relevant to the waterfront environment, including the Boundary Waters Treaty (1909) and the Great Lakes Water Quality Agreement (1978, amended by Protocol in 1987);

Provincial: *Beach Protection Act, Beds of Navigable Waters Act, Conservation Authorities Act, Environmental Assessment Act, Environmental Protection Act, Metropolitan Toronto Act, Municipal Act,* Ontario Building Code, *Ontario Heritage Act, Ontario Water Resources Act, Planning Act,* and *Public Lands Act;*

Municipal: official plans and amendments thereto, and zoning by-laws for Metropolitan Toronto and the cities of Etobicoke, Scarborough, and Toronto.

Divisions of Responsibility

The planning responsibilities, policies, programs, approval procedures, budgetary processes, and reporting routes associated with all the jurisdictions on the Toronto waterfront form a complex maze. Understanding the workings of governance in this area is a key step in seeking constructive opportunities to integrate environmental considerations into the planning, development, and management of the waterfront. While a comprehensive review of the relevant jurisdictions is not appropriate here, the following summary highlights key points relevant to environmental and health issues.

Joint initiatives: Canada's Constitution creates the first

layer of jurisdictional complexity, dividing responsibilities between the federal and provincial governments. However, many federal-provincial agreements and programs have been established to enable co-operative and pragmatic action on issues of mutual interest. An example of particular relevance to the waterfront environment is the Canada-Ontario Accord Respecting Great Lakes Water Quality that provides for joint programs, including the development of Remedial Action Plans, to meet the requirements of the Canada-U.S. Great Lakes Water Quality Agreement. The *Fisheries Act* is federal legislation; however, the federal and provincial governments recently signed a Canada-Ontario Fisheries Agreement regarding management of fisheries in Ontario.

At the regional level, the Metropolitan Toronto and Region Conservation Authority (MTRCA) recently assumed responsibility on behalf of the Ontario Ministry of the Environment (MOE) for administering the Lakefill Quality Assurance Program along the Toronto waterfront. The Toronto Area Watershed Management Strategy (TAWMS), co-ordinated by the MOE, and the Rouge River Urban Drainage Study, co-ordinated by the MTRCA, are both examples of co-operative programs involving many different departments and levels of government. The discharge of industrial effluents to municipal sewer systems is being addressed under Ontario's Municipal-Industrial Strategy for Abatement (MISA) and the requirements for municipal sewer use controls will probably be implemented and enforced by the Municipality of Metropolitan Toronto.

Federal responsibilities: shipping, navigation, harbour activity, and fishing come under the purview of federal legislation and agencies. However, if the federal government is to carry out its responsibilities effectively and economically, it must co-operate with the province and municipalities in such matters as provision of electricity, roads, building inspections and permits, water, sewers, garbage collection, etc. Similarly, the functions of federal agencies and departments — in such matters as railways, airports, environmental protection, national health and welfare programs, immigration policy, foreign consular offices, and foreign trade policy — affect Metro Toronto because all contribute to its continued growth and prosperity.

The Toronto Harbour Commissioners, Harbourfront

Corporation, and CN Rail are the key agencies responsible for managing federal lands on the waterfront.[20] Their mandates and activities should be examined to determine how they might most effectively integrate environmental considerations. It is a matter of great concern that none of these agencies is required to submit to the federal Environmental Assessment and Review Process (EARP).

Since it was established in 1911, the Toronto Harbour Commissioners (THC) has operated under a dual mandate to build and operate a major port, and to develop real estate. The Board of THC consists of five federally appointed members, three of whom are nominated by the City of Toronto, one by the Board of Trade, and the fifth by the federal government itself. However, the THC has a considerable degree of autonomy; it is not directly accountable to either the federal government[21] or the City of Toronto, and is not required to comply with EARP or with provincial policies or programs. Recently, however, the THC voluntarily undertook an initial assessment under EARP for the Outer Harbour Marina, and agreed to co-operate with the Lakefill Quality Assurance Program of the Ontario Ministry of the Environment (administered by the MTRCA) regarding lakefill operations at the Leslie Street Spit (see section on lakefill earlier in this Report).

The Harbourfront Corporation is a non-profit Crown corporation established by the federal government in 1976, with responsibility for managing approximately 45 hectares (111 acres) in part of the Central Waterfront. It is accountable to Parliament through the federal Minister of Public Works. In 1982, Harbourfront Corporation signed a Master Agreement with the City of Toronto which established a special municipal planning process. This process is based on preparing and negotiating sub-area plans for individual sections of the area, (instead of plans of subdivision) .

20. A detailed review of the operations of these federal agencies is included in a report on *Federal Land Management in the Toronto Region* undertaken for the Bureau of Real Property Management of the Treasury Board by McLaughlin Associates (1987). An analysis of the roles of the federal agencies in the redevelopment of the Toronto waterfront is contained in "Redevelopment on the North American Water-Frontier: the Case of Toronto" by Gene Desfor, Michael Goldrick, and Roy Merrens (pp. 92 - 113 in *Revitalizing the Waterfront: International Dimensions of Dockland Redevelopment*, eds B.S. Hoyle, D.A. Pinder, and M.S. Husain, Belhaven Press, London and New York, 1988).
21. However, the THC is required to provide an annual report and audited financial statement to the Minister of Transport.

Unfortunately this approach has contributed to some of the problems related to urban design and parkland provision at Harbourfront. Furthermore, as Gary Hack concluded in *Recharting a Course for Harbourfront*, "the real failure in the process of guiding development was the absence of a serious commitment to preparing sub-area plans and to using them as a vehicle to guide development" (a report to Public Works Canada, 1987, p.22).

CN Rail is a major landowner of the 81-hectare (200-acre) Railway Lands site; other landowners include THC, CPR, Canada Post, Toronto Terminal Railways, the City of Toronto, and Metropolitan Toronto. In 1986, the Ontario Municipal Board approved a City of Toronto Official Plan Amendment for the Railway Lands (see section below on the City of Toronto for more details on the implementation of this plan by the City).

Environment Canada is involved with the Great Lakes in general, and the Toronto waterfront in particular, in various ways, many of them in co-operation with other government agencies. Examples include administration of the Canada-U.S. Great Lakes Water Quality Agreement, co-ordination of the Remedial Action Plan, wildlife studies (particularly of gulls and geese), assessment of the Keating Channel dredging, development of the Lakefill Quality Assurance Program, assessment of the THC's Outer Harbour Marina proposal, and assessment of the activities of the Harbourfront Corporation.

Federal agencies also have opportunities to comment on municipal planning matters through the circulation of proposed official plans and amendments by the Ontario Ministry of Municipal Affairs to those federal agencies deemed to have an interest in a particular amendment. This is not prescribed in the *Ontario Planning Act* but is undertaken by one level of government as a courtesy to another. It is not clear how effectively this process is working, and there appears to be a need to review three issues: whether the most appropriate federal agencies are kept informed; whether all the relevant issues are brought to federal attention; and whether the informal circulation process should be formalized rather than relying on courtesy.

Provincial responsibilities: some key ministries whose activities may directly or indirectly affect the environment of the Toronto waterfront are Culture and Communications (MCC), Environment (MOE), Transportation (MTO), Municipal Affairs (MMA), and Natural Resources (MNR).

Among the responsibilities of the Ministry of the Environment are the administration of the *Environmental Protection Act*, *Environmental Assessment Act*, *Ontario Water Resources Act*, and the co-ordination of many programs, including MISA, TAWMS, WWQIP, DWSP, PWQO, Guide to the Consumption of Sport Fish, and the Toronto RAP (see Glossary for explanation of acronyms).

The Ministry of Natural Resources' involvement in the waterfront and watersheds includes implementation of the Fish Habitat Provisions of the *Fisheries Act*, ownership of waterlots, co-operation with MMA in the administration of the Draft Wetlands Policy, operation of the ANSI(Areas of Natural and Scientific Interest) program, participation in TAWMS and the Toronto RAP, and responsibility for conservation authorities, including the MTRCA.

The Ministry of Culture and Communications has the potential to influence the Toronto waterfront environment through its administration of the *Ontario Heritage Act*, although in its present form the Act does not provide adequate protection to heritage resources (see Section 3 on heritage preservation). The MCC is currently undertaking a review of heritage policy in Ontario.

The Ministry of Transportation assists in the financing and design of highways and transit serving the area. This is achieved mainly through Metro Toronto programs for which MTO participation is sought.

In addition to administering the legislation and programs for which they have direct responsibility, all provincial ministries have opportunities to comment to the MMA about those proposed official plan amendments in which they may have an interest.

Through the administration of the *Planning Act* (1983), MMA provides overall co-ordination of municipal planning and protects provincial interests in land. The *Planning Act* establishes a hierarchy of instruments intended to establish an orderly and rational decision-making process; these are:

- provincial policy statements
- Metropolitan Toronto Official Plan;
- Etobicoke, Scarborough, and Toronto official plans;
- Metropolitan Toronto zoning by-laws;
- Etobicoke, Scarborough, and Toronto zoning by-laws;
- holding by-laws;
- plans of subdivision; and
- site plan control agreements.

Provincial policy statements may be issued by the Minister of Municipal Affairs and other ministers under Section 3 of the *Planning Act* on matters of municipal planning that are of provincial interest. To date there are policy statements on mineral aggregate resources and flood plain planning; draft policies on foodlands, housing, and wetlands; and several more policies on various topics in preparation. Before a policy statement is issued, the Minister is required to consult with those municipal, provincial, and federal bodies, as well as persons or groups, that may have an interest in the proposed statement. After a policy statement is issued, every municipality, ministry, board, commission or agency of the province, on behalf of the Crown, shall have regard to it. The policy statements are intended to carry equal weighting with one another, and any conflicts will be resolved on a case by case basis.

Planning of the Toronto waterfront and related river valleys will be affected by the Flood Plain Planning Policy, Draft Wetlands Policy, and Draft Housing Policy.

The Flood Plain Planning Policy, approved in August 1988, has three purposes:

1. to prevent loss of life;
2. to minimize property damage and social disruption; and
3. to encourage a co-ordinated approach to the use of land and the management of water.

Implementation will be undertaken by municipalities, through official plans and zoning by-laws, and by conservation authorities, through the flood and fill permit system. The Flood Plain Policy affects all the major watercourses that flow through Metro Toronto, as well as flood-prone sections of the waterfront (including federally owned areas). In cases where significant development has occurred or is planned in the flood plain (for example, St. Lawrence Square), the area may be designated as a Special Policy Area permitting some development subject to conditions.

The Draft Housing Policy Statement includes several objectives that have the potential to affect the environment of the Toronto waterfront.

1. All planning jurisdictions are to consider the implications of their actions on the availability of housing to meet future local, regional, and provincial needs.
2. Municipalities are to ensure that sufficient land is available to meet expected residential growth for a ten-year period.
3. Municipalities are to provide for a variety and mix of housing in the community.
4. Municipalities are to ensure that at least 25 per cent of new residential development is affordable to the lower 60 per cent income group of the regional population.

In meeting these objectives, it is probable that waterfront municipalities will be under even greater pressure to permit higher-density development, conversion of non-residential buildings and lands, and considerable infill in already developed lakeshore areas. Unless such development is carefully planned to accommodate environmental concerns, the liveability of communities is likely to deteriorate. When implementation of housing objectives threatens environmental quality or the conservation of valuable environmental assets, it is important that the municipality involved carefully weighs the long-term community needs against immediate housing shortages.

The current debate concerning the future of the former Lakeshore Psychiatric Hospital on the Etobicoke waterfront can be used to demonstrate how environmental values can be maintained in the development process. While these

lands are quite suitable for housing, from a broader, environmental planning perspective, it is clear that the heritage buildings could be conserved for a variety of purposes and that the open space is valuable as a major regional amenity (especially because there are no other opportunities for regional parks in this area).

The Draft Wetlands Policy Statement (discussed in Section 4, on natural areas and wildlife) has the potential to encourage protection of one of the two major wetlands along the Toronto waterfront (the Class II Rouge Marshes), but has only limited influence over the future of the Humber Marshes (Class III). It is worth noting that while the Draft Wetlands Policy Statement recognises that land use planning may involve trade-offs between the protection of wetlands and economic development, the Draft Housing Policy Statement does not include any consideration of environmental matters.

Metropolitan Toronto and Region Conservation Authority responsibilities: the MTRCA is a provincial/municipal partnership established in 1957 under the *Conservation Authorities Act* to manage the renewable natural resources of the region's watershed. It is funded by the Province (through MNR), Metropolitan Toronto, and the regional municipalities of Durham, York, and Peel (for further details on the Authority's structure, see Section 5 on public involvement).

In 1970, the Province appointed the MTRCA to implement the Metropolitan Toronto Waterfront Plan (1967), except as it applied to the central harbour area in the City of Toronto. In carrying out this plan, the MTRCA has undertaken shoreline protection measures and increased the availability of recreational opportunities on the waterfront (through lakefilling to create land, purchase of existing land, and development of marinas, sailing club facilities, and parks). In the recent Greenspace Plan for the Greater Toronto Region (1988), the MTRCA indicated it intended to complete implementation of the 1967 plan by acquiring and creating more land and by strengthening the Authority's planning, implementation, and management functions as they affect open space/recreation, lakefill quality, water quality, fisheries, erosion control, and management of the environment.

The MTRCA's watershed management program has focussed on flood control, erosion and sediment control, storm water management, land acquisition and conservation, and recreation. In those parts of the valleys susceptible to flooding, the MTRCA controls development through land acquisition coupled with the application of regulations to control fill and construction. With rapid urbanization of the headwaters of the watershed in the Oak Ridges moraine north of Metro Toronto, the MTRCA is concerned about the potential for systematic and serious degradation of water, wildlife habitat, and vegetation. The impact of urbanization on the quantity and quality of groundwater in this area could have profound implications, not only for the rivers in the watershed, but also for the aquatic environment of the Toronto waterfront and shoreline marshes.

Metropolitan Toronto responsibilities: the Metropolitan Official Plan of 1980 is a document of consensus, and its potential as a strategic document has been somewhat limited by the past structure of the Metropolitan Council. The Council is now elected directly, which means it has the opportunity to make greater use of its powers. This direction is suggested in the current review of the Official Plan, in which, for example, there are recommendations to place greater emphasis on environmental protection.[22]

The relationship between the Metropolitan Official Plan and the official plans of the area municipalities is hierarchical: every official plan and zoning by-law in each of the municipalities will be amended to conform to an approved Metropolitan Official Plan. Thus there is an opportunity for Metropolitan Toronto to become a leader in developing both general and detailed policies to guide the development of the Toronto waterfront (except those areas under federal or provincial jurisdiction). It is also worth noting that amendments to the Metropolitan Official Plan may be requested by any jurisdiction or individual, presenting opportunities to propose specific amendments relating to the waterfront.

City of Etobicoke responsibilities: Etobicoke is also undertaking a review of its official plan, including a waterfront component. There is no comprehensive plan at present for

22. See for example *Parks and Open Space: A Background Document in the Review of the Official Plan for Urban Structure*: Metropolitan Toronto, 1988.

the waterfront, and the City has relied on the MTRCA's Waterfront Development Program for guidance in this area. Parts of the Etobicoke waterfront are undergoing considerable change, and specific studies have been undertaken for them, including Mimico, the Lakeshore Psychiatric Hospital site, and the motel strip. It is therefore timely and crucial to integrate an environmental perspective into planning for the Etobicoke waterfront.

In March 1988, the Etobicoke City Council adopted Official Plan Amendment C-65-86 to provide policies governing existing uses and future redevelopment on the motel strip, including the provision of public access to proposed parkland along the water's edge. A key issue here is the future ownership of waterlots, which are currently in both public and private ownership.

In response to concerns about a variety of environmental issues, including the proposed extent of lakefill, potential effects on water quality, and potential noise and traffic from nearby industries or transportation facilities, the Minister of the Environment is currently considering whether the motel strip should be subject to an environmental assessment. Etobicoke's Development Committee does not favour an EA, arguing that it could defeat public sector goals for the rehabilitation of the waterfront area and cause unnecessary duplication and extension of an already lengthy approval process. This response illustrates the conflict between the municipal planning process established under the *Planning Act* and the undertaking of an environmental assessment under the *Environmental Assessment Act*.

City of Toronto responsibilities: the City of Toronto planning for the waterfront includes official plan amendments for the Central Waterfront, Railway Lands, and Harbourfront. While other levels of government may not be obliged to comply with the City's official plan policies, zoning by-laws, or building permit approvals (with the exception of Harbourfront Corporation, which has a Master Agreement with the City of Toronto), they usually do so. However, when municipal policies are not in accord with the interests of provincial or federal agencies, they may simply be ignored.

However, there appear to be limits to the right of harbour commissions to ignore municipal policy: in a decision relating to the Hamilton Harbour Commission, the Supreme Court of Canada concluded that, except in matters relating to its shipping and navigation authority, the Harbour Commission was, in fact, required to comply with the municipal ordinance. This judgment may have implications for the Toronto Harbour Commissioners in its relations with the City of Toronto.

The City of Toronto's recent official plan amendment for the Central Waterfront includes policies pertaining to environmental resource areas, lakefilling, water quality, air quality, vegetation and wildlife management, the environmental compatibility of industrial land uses with new development, views of the water, micro-climate, and open space. The City is also proposing a restrictive "Gr" zoning category that would permit only conservation lands, a botanical garden, and/or a bathing station. This category would be used to protect existing environmental resource areas as well as to specify permitted uses for land that might in future be created through lakefilling.

The City of Toronto Part II Official Plan for the Railway Lands is being implemented on a precinct-by-precinct basis. Fourteen precincts will be developed in phases, over an extended time. Among the requirements for the removal of the "holding" zone from each precinct, allowing development to proceed, are the submission of an environmental report, and the negotiation of an environmental agreement with the City. The environmental report must address noise, air quality, micro-climate, soil quality, storm water management, accident risks, and environmentally sound construction practices.

This innovative approach illustrates the City of Toronto's commitment to environmental protection. However, implementation of the environmental agreements (two have been made to date) has exposed some weaknesses in the process. For example, monitoring of environmental conditions is undertaken by a consultant hired by the developer, placing the consultant in a difficult position if violations of the agreement are discovered. In addition, the City has no authority to enforce the agreements, since they are based on the requirements of other levels of government (e.g., the

Metropolitan Sewer-Use By-law administered by Metropolitan Toronto, or the Ontario Ministry of the Environment's Soil Clean-Up Criteria).

City of Scarborough responsibilities: the main environmental issues along the Scarborough section of the waterfront are shoreline erosion, lakefilling, water quality, public access, and open space. The City of Scarborough works closely with the MTRCA in addressing many of these issues — for example, through watershed planning (the Rouge River Urban Drainage Plan), waterfront development, and shoreline protection. Co-ordination of watershed planning with the municipalities north of Scarborough is particularly important to the health of the watercourses in the City, most of which originate outside City boundaries. Scarborough is currently undertaking a review of the environmental policies in its Official Plan to place greater emphasis on storm water management, the waterfront, protection of minor ravines, and tree preservation.

Issues

1. There is currently no overall ecosystem approach to the planning, development, and management of the Toronto waterfront. This deficiency, and the need to remedy it, is pinpointed in the 1988 Metro Toronto Remedial Action Plan *Report on Environmental Conditions and Problem Definition:*

   The study area for the Metro Toronto RAP is not linear; it includes the nearshore of Lake Ontario and six watersheds. Within this area are 14 local and three regional municipalities, half a dozen provincial agencies, several federal agencies, and numerous commissions, boards and crown corporations that have jurisdictional, resource management or legislative responsibilities here. These divisions of the area into political units, resources and regulatory powers, cause sectoral, fragmented, often conflicting and ineffective ecosystem management efforts that focus on blocks of land as common units for management decision-making.

> The need for a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses has been recognized within the context of the Metro Toronto RAP. The emphasis will be placed on the aquatic ecosystem, but the RAP process is sufficiently flexible to reflect broad discussions relating to land, air, and water. However, the RAP is a water quality plan and has no jurisdiction over local planning matters. The Metro Toronto RAP will be developed using an ecosystem approach and the RAP process should act as a catalyst for other responsible jurisdictions to adopt the principle of ecosystem planning for Toronto's waterfront and watersheds. [p. 133]

> Initiatives like the Toronto Area Watershed Management Strategy, the Metro Toronto RAP, or the Rouge River Urban Drainage Study do bring together a number of agencies (and in some instances, the public) and employ an ecosystem approach within their particular mandate. However, there is no mechanism for taking an ecosystem approach, encompassing both land and water issues, for the entire waterfront and related watersheds, from the headwaters of the rivers to the waters of Lake Ontario.

2. The existence of so many jurisdictions and, in some cases, their limited public accountability, tends to hinder decision-making on such questions as who is responsible for what and, most important, who pays. As McLaughlin Associates' report on *Federal Land Management in the Toronto Region* pointed out, "Toronto's waterfront has been everyone's, but no one's business for over 150 years" (Bureau of Real Property Management of the Treasury Board, 1987, p. 19). Relationships between the agencies are complex, and there are many areas of dissatisfaction. To cite a few examples: the federal and provincial agencies are not required by legislation to conform to the Metro or area municipalities' official plans; the federal agencies have no responsibilities in relation to provincial legislation or programs; and the MTRCA is restricted in its waterfront planning by exclusion from Toronto's Central Waterfront.

With no single agency in charge, there is a clear need to develop and improve processes to achieve consensus on what needs to be done, priorities for action, division of responsibilities, and an equitable system of financial commitment.

3. Current processes for planning and environmental assessment do not provide adequate, comprehensive environmental planning. Briefly, some of the key problems relevant to the Toronto waterfront include:

   a) the *Ontario Environmental Assessment Act* (EAA) process provides for a review of a particular undertaking and its alternatives, but does not enable a comprehensive understanding of the potential cumulative effects of many undertakings. Private projects are not routinely subject to the EAA, although they can be so designated by Cabinet. Thus, most private undertakings receive only the amount and type of environmental consideration deemed necessary by a given municipality, in the context of the limited requirements of the *Planning Act*.

   b) There are serious concerns about the relationship, or lack thereof, between municipal planning and environmental assessment in Ontario. Municipalities are concerned about a number of issues, including duplication of studies that occurs under the two processes; the difficulties of timing and sequencing; the loss of municipal power when proposals receive environmental assessment by the Province; and the high costs and time delays involved in environmental assessment. While there are provisions for joint hearings under the *Consolidated Hearings Act*, there are no mechanisms for joint procedures for the rest of the environmental assessment or planning processes.

   c) The effectiveness of the Federal Environmental Assessment and Review Process (EARP) is limited by a number of weaknesses, among them exemption of some key agencies (including THC, CN Rail, and Harbourfront Corporation); absence of specific requirements for the format and content of initial assessments and environmental evaluations; inadequate public consultation during the initial assessment phase; and limited powers of the Federal Environmental Assessment and Review Office.

4. While official plans are the principal statements of municipal policy, it is the zoning by-laws that actually permit and define the precise nature of development. Zoning by-laws remain in force until they are amended, regardless of the official plan policy, so that many zoning by-laws do not conform with current policy. If a zoning by-law is out of step with the needs of economic development, a rezoning application as well as a site-specific official plan amendment are likely. This results in piecemeal planning, which is reactive and does not occur within the broad context of the "public good". The significance of this for the waterfront is two-fold: as specific policies for sustainable development of the waterfront are developed, municipal zoning by-laws should be amended as necessary and without delay; and there is an opportunity to design specific zoning by-laws for areas of the waterfront, which would refine traditional zoning categories to better reflect the special environmental conditions in this area.

Opportunities

Over the years, most decision-making along the Metro Toronto waterfront has been based on economic imperatives, with an implicit assumption that the environment would take care of itself. However, as the scale of human activity has increased and become increasingly reliant on technology, the immediate effects and long-term implications for environmental quality have become apparent. The only way to address this problem is to adopt the principle of environmentally sustainable economic development, in which environmental considerations are given equal status with economic matters, so that changes to the environment today will not reduce options for future generations.

In order to achieve sustainable development, it will be necessary to take an ecosystem approach to activities along the waterfront and in related watersheds. This will require all four levels of government and their agencies, the private sector, special interest groups, and the public to work together to develop consensus on a vision for the waterfront, with shared land and water use goals, and a strategy for achieving them.

The Ontario Round Table on the Environment and Economy is expected to assist in the process of integrating environmental and economic planning in the province. Perhaps the Round Table concept could be used as a model in establishing a sustainable development strategy for the waterfront. There are several entities that have played, or have the potential to play, key co-ordinating roles as a foundation for this process, including the Royal Commission on the Future of the Toronto Waterfront, the Remedial Action Plan Team, the Intergovernmental Waterfront Committee (which should include representation from Etobicoke and Scarborough as well as from Toronto, Metro, Ontario, and Canada), the Metropolitan Toronto and Region Conservation Authority, and the Municipality of Metropolitan Toronto. Any mechanism established for developing consensus should itself be arrived at through discussions with all the participants, so that their involvement will be based on a full commitment to the process and to its subsequent implementation.

Assuming that consensus on the future of the Toronto waterfront can be reached, it will provide a framework or benchmark against which each level of government and each agency should assess its own and joint activities, programs, and plans, including the Metro Toronto Remedial Action Plan, Toronto Harbour Commissioners plans, Harbourfront development, watershed management, heritage preservation, the development of a lakefilling policy, nature conservation, Metro's official plan, area municipal official plans, zoning by-laws, etc. As in developing consensus, there should be full public consultation in all of these activities.

The overall legislative basis for environmental planning and assessment needs strengthening. At the provincial level, reviews of the *Environmental Assessment Act* and the *Ontario Heritage Act* are under way, but it is not yet clear how the relationships between these acts and the *Planning Act* will be addressed.

Provincial policy statements issued under Section 3 of the *Planning Act* provide an opportunity to confirm Ontario's commitment to sustainable development by developing specific policy statements on environment/economy integration. In addition, the Ministry of Municipal Affairs should explore mechanisms to ensure that municipalities improve their capacity to undertake environmental planning, include

environmental policies in their official plans, require environmental studies for official plan amendments and zoning changes, etc.

At the federal level, implementation of proposals to legislate and strengthen EARP will be a key step in improving the environmental assessment of federal undertakings. All federal agencies (including THC, CN Rail, and Harbourfront Corporation) should be required to submit to an EARP. There is also a need to develop agreements with provincial governments to streamline overlapping or duplication of environmental assessment processes applicable to the same project.

Perhaps the most fitting final observation for this Report is contained in the epigraph of *Survival in a Threatened World: Submission by the People of Canada to the World Commission on Environment and Development* (Environment Canada: May 1986).

> We have measured the lands, weighed the forces of nature, reckoned the means of industry, and, behold, we have found that this earth can nourish us all decently if we all work and do not want to live at the cost of another.

That modest formula for what is now called environmentally sustainable economic development is from the pen of the German poet, Heinrich Heine, who lived between 1797 and 1856.

Appendix 1

Glossary of Acronyms

ANSI	Area of Natural and Scientific Interest
CN	Canadian National
CNE	Canadian National Exhibition
COA	Canada-Ontario Agreement
DDT	Dichlorodiphenyl trichloroethane
DWSP	Drinking Water Surveillance Program
EAA	Environmental Assessment Act (Ontario)
EA	Environmental Assessment
EAPIP	Environmental Assessment Program Improvement Project
EARP	(Federal) Environmental Assessment and Review Process
EIZ	Environmental Impact Zone
ERA	Environmental Resource Area
ESA	Environmentally Significant Area
GLWQA	Great Lakes Water Quality Agreement
IJC	International Joint Commission
IUCN	International Union for the Conservation of Nature and Nature Resources
MCC	(Ontario) Ministry of Culture and Communications
MGS	(Ontario) Ministry of Government Services
MISA	Municipal-Industrial Strategy for Abatement
MMA	(Ontario) Ministry of Municipal Affairs
MNR	(Ontario) Ministry of Natural Resources
MOE	(Ontario) Ministry of the Environment
MTRCA	Metropolitan Toronto and Region Conservation Authority
OHA	Ontario Heritage Act
OHPR	Ontario Heritage Policy Review
OMB	Ontario Municipal Board
PCB	Polychlorinated biphenyl
PWQO	Provincial Water Quality Objectives
RAP	Remedial Action Plan
SFBCDC	San Francisco Bay Conservation and Development Commission
TAWMS	Toronto Area Watershed Management Strategy
THC	Toronto Harbour Commissioners
THM	Trihalomethane
WPCP	Water Pollution Control Plant
WRAP	Waterfront Remedial Action Plan
WWQIP	(Metro Toronto) Waterfront Water Quality Improvement Program

Appendix 2

Government and Quasi-government Agencies and Departments Interviewed by Environment and Health Work Group

Federal
Environment Canada
Harbourfront Corporation
Toronto Harbour Commissioners
Transport Canada

Provincial
Ontario Ministry of the Environment
Ontario Ministry of Natural Resources
Metropolitan Toronto and Region Conservation Authority

Metropolitan Toronto
Parks and Property Department
Planning Department
Works Department

Area Municipalities
City of Etobicoke:
- Environmental Advisory Committee
- Health Department
- Parks and Recreation Services
- Planning Department
- Works Department

City of Toronto:
- Environmental Protection Office
- Planning and Development Department
- Works Department

City of Scarborough:
- Environmental Advisory Committee
- Health Department
- Planning Department
- Recreation and Parks Department
- Works Department

Others
Heritage Canada
Ontario Hydro
Toronto and District Heating Corporation

Appendix 3

Non-government Organizations That Made Submissions to the Environment and Health Work Group

Throughout October 1988, we wrote to approximately 70 environmental, recreation, and residents' associations we felt might be interested in commenting on environment and health issues on the Toronto waterfront. Because of the tight schedule for our Work Group, we regret that there was not more time for groups to respond. However, a number (listed below) did write to us, and gave us valuable information, which is on file at the Commission offices. We have used it as part of the background material for our consideration of the issues, and we hope that the views of the different interest groups are reflected in our Report.

We thank the groups who responded to our request for information, and apologize if the deadline made it impossible for others. Several organizations wrote to indicate that they were unable to send a submission at this time, but hoped to participate in the public hearings being held by the Royal Commission in 1989. As the work of the Commission is ongoing, we expect that many non-government organizations will wish to participate.

Black Creek Group
Botany Conservation Group, University of Toronto
Citizens for a Safe Environment
Conservation Council of Ontario
Federation of Ontario Naturalists
Friends of the Spit
Public Focus
Toronto Field Naturalists
Urban Wilderness Gardeners
Great Lakes Tomorrow
St. Lawrence Neighbourhood Association

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